SmartWatch® Network Video Recorder

H20NVR4 / H20NV8 / H20NVR16

Installation Manual

Regulatory information
FCC information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

This manual is applicable to the models listed in the following table.

Model	Type
H20NVR4 H20NVR8 H20NVR16	Network Video Recorder

Product Key Features

General

- Connectable to network cameras, network dome and encoders.
- Connectable to the third-party network cameras like AXIS, Brickcom, Bosch, PANASONIC, SAMSUNG and SANYO, and network cameras that adopt ONVIF or PSIA protocol.
- PAL/NTSC adaptive video inputs.
- Each channel supports dual-stream.
- Up to 4, 8 or 16 network cameras can be connected.
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
- The quality of the input and output recording is configurable.

Local Monitoring

- Simultaneous HDMI and VGA outputs.
- HDMI output and VGA output at up to 1920×1080 resolution.
- Multiple screen display in live view is supported, display spot sequence of channels is adjustable.
- Live view screen can be switched in group, manual and automatic cycle.
- Quick setting menu.
- Motion detection, video tampering, video exception alert and video loss alert functions.
- Privacy mask.
- Multiple PTZ protocols supported; PTZ preset, patrol and pattern.
- Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

HDD Management

- Up to 2 SATA hard disks can be connected. (Each disk with a maximum of 4TB storage capacity.)
- 8 network disks (8 NAS disks, or 7 NAS disks+1 IP SAN disk) can be connected.
- Support S.M.A.R.T. and bad sector detection.
- HDD group management.
- Support HDD standby function.
- HDD property: redundancy, read-only, read/write (R/W).
- HDD management; different capacity can be assigned to different channels.

Recording and Playback

- Holiday recording schedule configuration.
- Continuous and Event video recording parameters.
- Multiple recording types: manual, schedule, alarm, motion, motion or alarm, motion & alarm.
- 8 recording time periods with separated recording types.
- Pre-record and post-record for alarm, motion detection for recording, and pre-record time for schedule and manual recording.
- Searching record files by events (alarm input/motion detection).
- Tagging for recorded files, searching and play back by tags.
- Locking and unlocking record files.
- Local redundant recording.
- Search and playback by channel number, recording type, start time, end time, etc.
- Smart search for selected area on camera.
- Zooming in playback.
- Reverse playback in multi-channel.

- Supports pause, play reverse, speed up, speed down, skip forward, and skip backward when playback, and locating by dragging the mouse.
- 8 channel synchronous playback at 4CIF real time.

Backup

- Export video data by USB or SATA device.
- Export video clips when in playback.
- Management and maintenance of backup devices.

Alarm and Exception

- Configurable arming time of alarm input/output.
- Alarms for video loss, motion detection, tampering, abnormal signal, video input/output, illegal login, network disconnected, IP confliction, abnormal record, HDD error, and HDD full, etc.
- Alarm triggers full screen monitoring, audio alarm, notifying surveillance center, sending email and alarm output.
- Automatic restore when system is normal.

Other Local Functions

- Operable by mouse and remote control.
- Three-level user management; admin user is allowed to create many operating accounts and define their operating permission, which includes the limit to access any channel.
- Operation, alarm, exceptions and log recording and searching.
- Manually triggering and clearing alarms.
- Import and export of device configuration information.

Network Functions

- 1 self-adaptive 10M/100M/1000M network interface.
- Up to 8 independent PoE network interfaces for H20NVR8 and H20NVR16, and 4 independent PoE network interfaces for H20NVR4.
- IPv6 is supported.
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS, and iSCSI are supported.
- TCP, UDP and RTP for unicast.
- Auto/Manual port mapping by UPnP.
- Remote web browser access by HTTPS (ensures high security).
- Remote playback via RTSP.
- Support accessing by the platform via ONVIF.
- Remote search, playback, download, locking and unlocking of the record files, and support downloading files broken transfer resume.
- Remote parameters setup; remote import/export of device parameters.
- Remote viewing of the device status, system logs and alarm status.
- Remote locking and unlocking of mouse.
- Remote HDD initializing and program upgrading.
- Remote system restart and shutdown.
- RS-485 transparent channel transmission.
- Alarm information can be sent to the remote host.
- Remotely start/stop recording.
- Remotely start/stop alarm output.
- Remote PTZ control.

- Two-way audio and voice broadcasting.
- Embedded WEB server.

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Chapter 1 Introduction

1.1 Front Panel

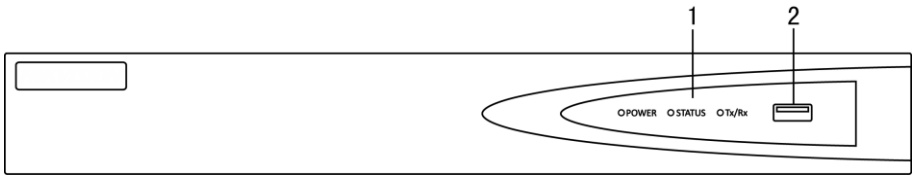


Figure 1. 1 H20NVR4, H20NVR8, H20NVR16 Front Panel

Table 1. 1 Description of Front Panel

No.	Name		Description
1	Status Indicator	Power	The power indicator turns yellow when system is running.
		Status	Status indicator blinks red when data is being read from or written to HDD.
		Tx/Rx	TX/RX indictor blinks yellow when network connection is functioning correctly.
2	USB Interface		Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

1.2 IR Remote Control Operations

The NVR can be controlled by the IR remote control (provided), shown in Figure 1. 2. Batteries (2×AAA) must be installed before operation.

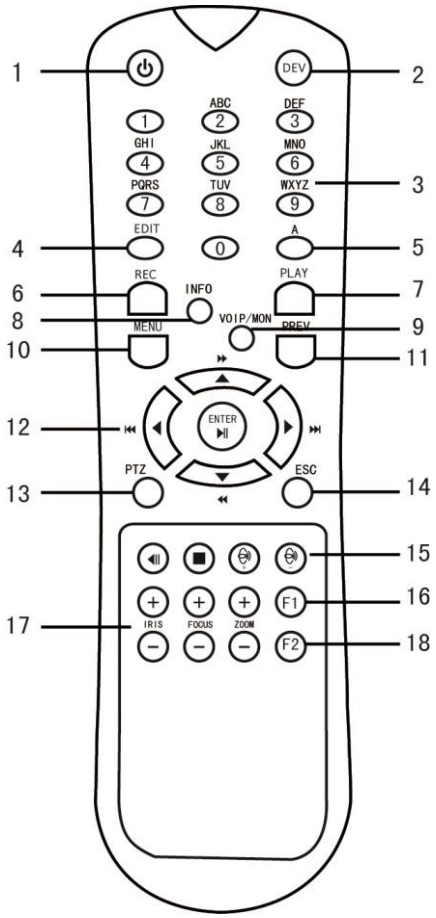


Figure 1. 2 Remote Control

Table 1. 2 Description of the Soft Keyboard Icons

No.	Name	Description
1	**POWER**	Power on/off the device.
2	**DEV**	Enables/Disables Remote Control.
3	**Alphanumeric Buttons**	Switch to the corresponding channel in Live view or PTZ Control mode.
		Input numbers and characters in Edit mode.
		Switch between different channels in All-day Playback mode.
4	**EDIT Button**	Edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor.
		On checkbox fields, pressing the button will *tick* the checkbox.
		In PTZ Control mode, the button adjusts the iris of the camera.
		In Playback mode, it can be used to generate video clips for backup.
		Enter/Exit the USB device folder.
5	**A Button**	Adjust focus when in the PTZ Control menu.
		It can also be used to switch between input methods (upper and lowercase alphabet, symbols and numeric inputs).
6	**REC Button**	Enter the Manual Record setting menu.
		In PTZ control settings, press to call presets.
		Playback mode to turn on/off audio.
7	**PLAY Button**	To enter All-day Playback mode.
		Auto scan in the PTZ Control menu.

No.	Name	Description
8	INFO Button	Reserved.
9	VOIP Button	To switch between the main and spot output.
		In PTZ Control mode, it can be used as zoom.
10	MENU Button	To return to the main menu.
		Press and hold the button for 5 seconds will turn off the audible key beep.
		In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
		In Playback mode, it is used to show/hide the control interface.
11	PREV Button	Switch between single screen and multi-screen mode.
		In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
12	DIRECTION Button	Navigate between different fields and items in menus.
		In the Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will select the next and previous record files.
		In Live View mode, these buttons can be used to cycle through channels.
		In PTZ control mode, it can control the PTZ direction.
	ENTER Button	Confirm selection in any of the menus.
		It can also be used to *tick* checkbox fields.
		In Playback mode, it can be used to play or pause the video.
		In single-frame Playback mode, pressing the button will forward the video to the next frame.
13	PTZ Button	In Auto-switch mode, it can be used to stop /start auto switch.
14	ESC Button	Back to the previous menu.
		Press for Arming/disarming the device in Live View mode.
15	RESERVED	Reserved for future usage.
16	F1 Button	Select all items on the list when used in a list field.
		In PTZ Control mode, it will turn on/off PTZ lamp (if applicable).
		In Playback mode, it is used to switch between play and reverse play.
17	PTZ Control Buttons	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	F2 Button	Cycle through tab pages.
		In synchronous playback mode, it is used to switch between channels.

Troubleshooting Remote Control:

Make sure you have installed the batteries correctly in the remote control. The IR receiver in the front panel. If there is no response after you press the remote, follow the procedure below.

Steps:

1. Go to Menu > Settings > General > More Settings by using the mouse.
2. Check and remember the NVR ID#. The default ID# is 255. This ID# is valid for all the IR remote controls.
3. Press the DEV button on the remote control.

4. Enter the NVR ID# you set in step 2.
5. Press the ENTER button on the remote.

1.3 USB Mouse Operation

1. Plug USB mouse into one of the USB interfaces on the front or rear panel of the NVR.
2. The mouse should automatically be detected.

The operation of the mouse:

Table 1. 3 Description of the Mouse Control

Name	Action	Description
Left-Click	Single-Click	Live view: Select channel and show the quick set menu. Menu: Select and enter.
	Double-Click	Live view: Switch between single-screen and multi-screen.
	Click and Drag	PTZ control: pan, tilt and zoom. Video tampering, privacy mask and motion detection: Select target area. Digital zoom-in: Drag and select target area. Live view: Drag channel/time bar.
Right-Click	Single-Click	Live view: Show menu. Menu: Exit current menu to upper level menu.
Scroll-Wheel	Scrolling up	Live view: Previous screen. Menu: Previous item.
	Scrolling down	Live view: Next screen. Menu: Next item.

1.4 Input Method Description

Figure 1. 3 Soft Keyboard

Soft keyboard:

Table 1. 4 Soft Keyboard Icons

Icons	Description	Icons	Description
a/A	Lowercase/Uppercase English		Symbols
	Space		Backspace
Enter	Enter	ESC	Exit

1.5 Rear Panel

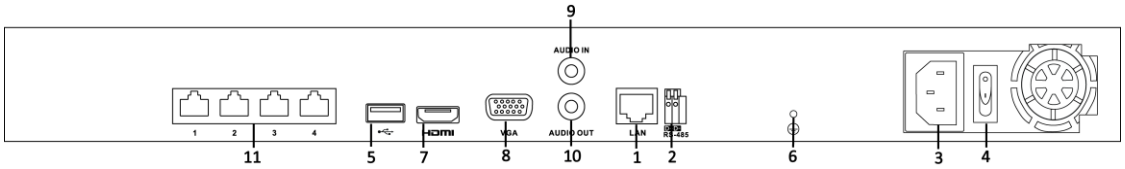


Figure 1. 4 H20NVR4 Rear Panel

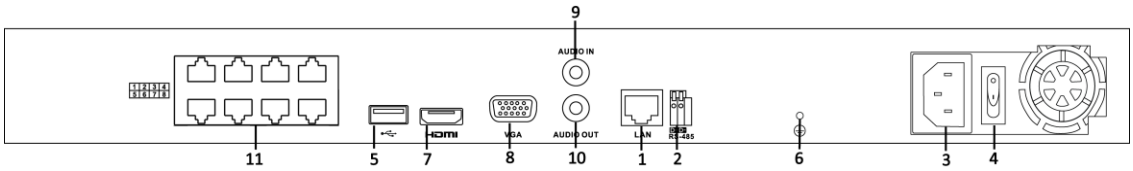


Figure 1. 5 H20NVR8 & H20NVR16 Rear Panel

No.	Item	Description
1	**LAN Network Interface**	Connector for LAN (Local Area Network).
2	**RS-485 Interface**	Connects to RS-485 devices.
3	**Power Supply**	100~240VAC power supply
4	**Power Switch**	Switch for turning on/off the device.
5	**USB Interface**	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
6	**GND**	Ground (needs to be connected when NVR starts up).
7	**HDMI Interface**	HDMI video output connector.
8	**VGA Output**	VGA output.
9	**Audio In**	RCA connector for audio in
10	**Audio Out**	RCA connector for audio output
11	**Network interfaces with PoE**	Network interface for cameras (PoE).

Chapter 2 Getting Started

2.1 Starting Up and Shutting Down the NVR

Proper startup and shutdown procedures are critical for the life of the NVR.

Starting up the NVR:

Steps:

1. Check the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) is used with the NVR.
2. Turn on the power switch on the rear panel.
3. After startup, the Power LED indicator turns on. A splash screen with the status of the HDD appears on the monitor. The row of icons at the bottom of the screen shows the HDD status. 'X' means that the HDD is not installed or cannot be detected.

Shutting down the NVR

Steps:

1. Enter the Shutdown menu.
   Menu > Shutdown

Figure 2. 1 Shutdown Menu

2. Click the **Shutdown** button.
3. Click the **Yes** button.
4. Turn off the power switch on the rear panel when the attention pops up.

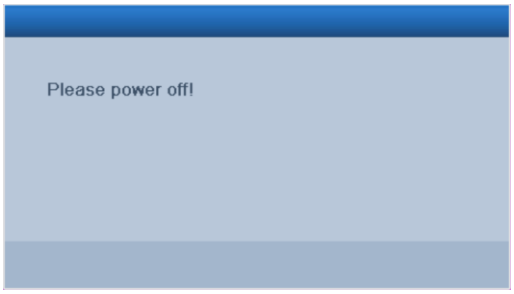


Figure 2. 2 Shutdown Attention Window

Rebooting the NVR

In the Shutdown menu, you can also reboot the NVR.

Steps:

1. Enter the **Shutdown** menu by clicking Menu > Shutdown.
2. Click the **Logout** button to lock the NVR or the **Reboot** button to reboot the NVR.

2.2 Using the Wizard for Basic Configuration

Select the system language from the drop-down menu. The default language is English.

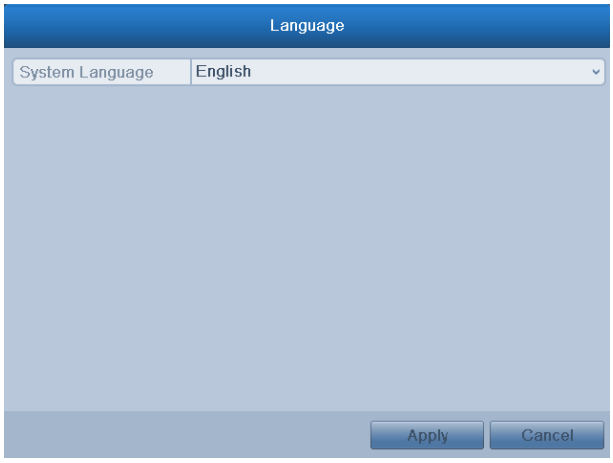


Figure 2. 3 Language Selection Window

Click **Apply** to save.

By default, the Setup Wizard starts once the NVR has booted, as shown in Figure below.

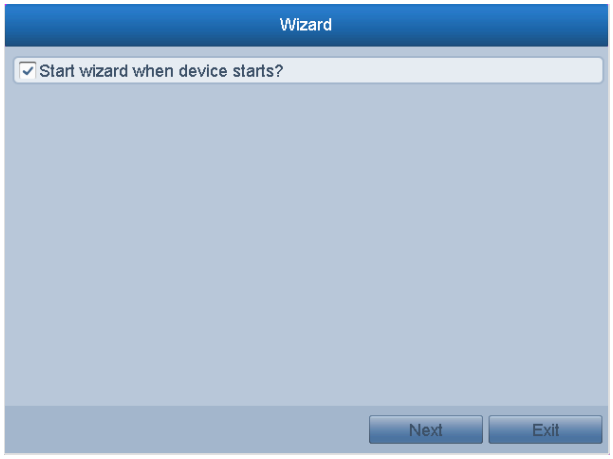


Figure 2. 4 Start Wizard Window

Operating the Setup Wizard:

1. The Setup Wizard can step you through some important settings of the NVR. If you don't want to use the Setup Wizard, click the **Exit** button. You can also select to use the Setup Wizard next time by leaving the "Start wizard when the device starts?" checkbox checked.
2. Click **Next** button on the Wizard window to enter the **Login** window, as shown in Figure 2. 5.

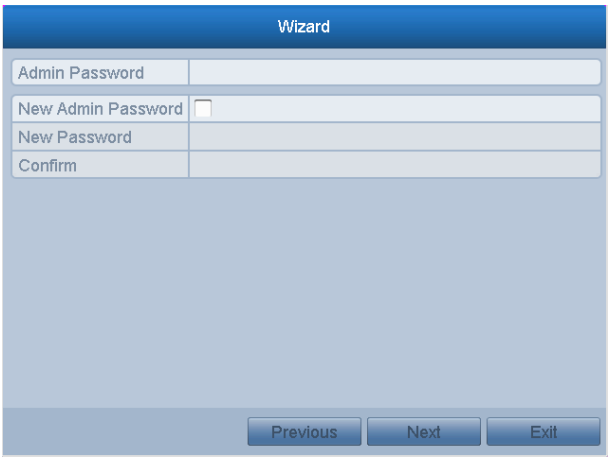


Figure 2. 5 Login Window

3. Enter the admin password. By default, the password is 12345.
4. To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the new fields.
5. Click the **Next** button to enter the date and time settings window, as shown in Figure 2. 6.

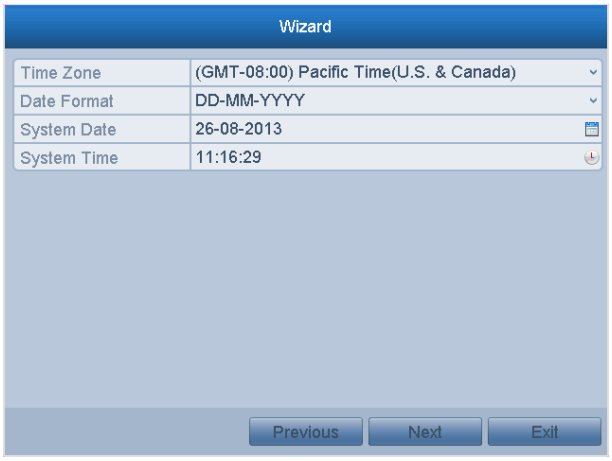
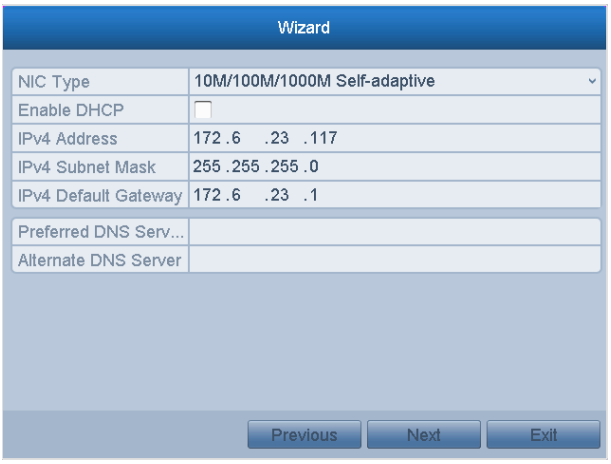


Figure 2. 6 Date and Time Settings

6. After the time settings, click **Next** button will take you back to the Network Setup Wizard window, as shown in Figure 2. 7.



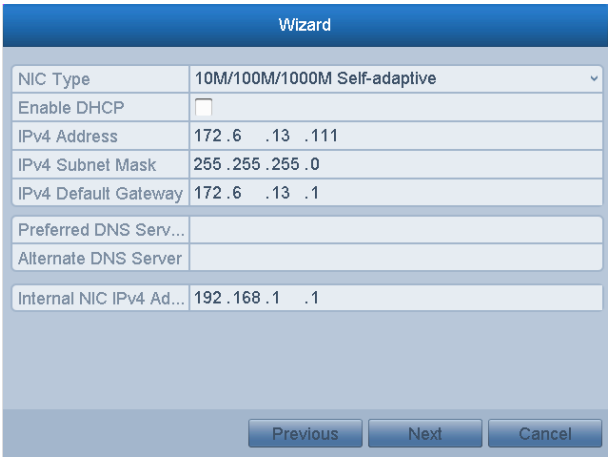


Figure 2. 7 Network Configuration

NOTE

For the NVR, the internal NIC IPv4 address should be configured for the cameras connecting to the PoE network interfaces of the NVR.

7. Click **Next** button after you configured the network parameters, which takes you to the **HDD Management** window, shown in Figure 2. 8.

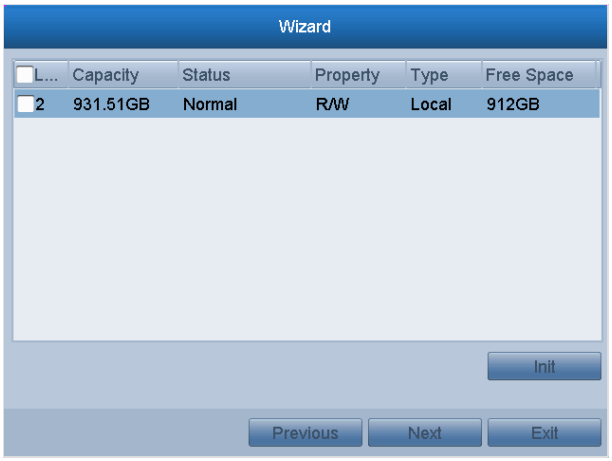


Figure 2. 8 HDD Management

8. To initialize the HDD, click the **Init** button. Initialization removes all the data saved in the HDD.
9. Click **Next** button to enter **Adding IP Camera** interface.
10. Click **Search** to find online IP Camera. Select the IP camera to be added, and click the **Add** button.

Figure 2. 9 IP Cameras Search

11. Click **Next** button. Configure the recording for the selected IP Cameras.

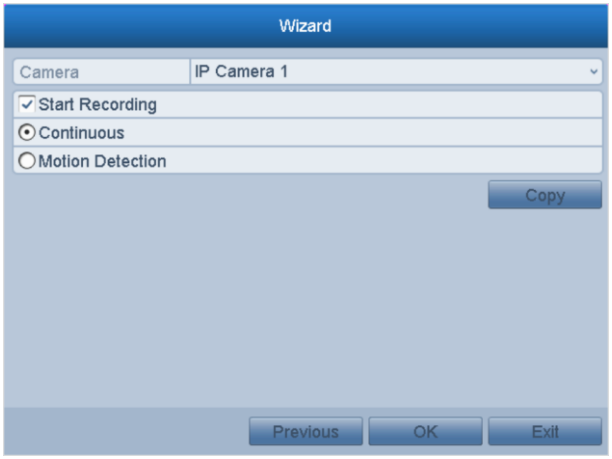


Figure 2. 10 Record Settings

12. Click **Copy** to copy the settings to other channels, as shown in Figure 2. 11.

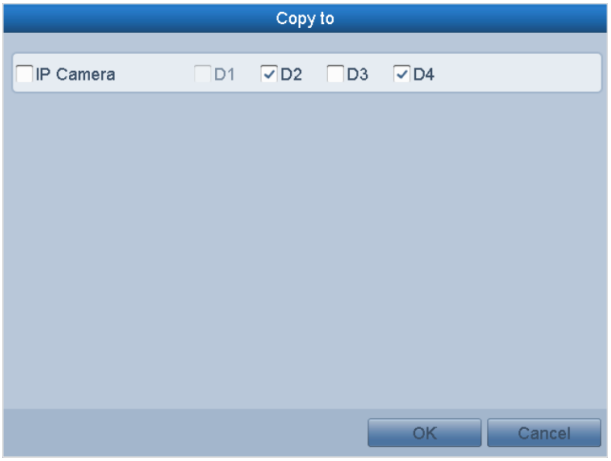


Figure 2. 11 Copy Record Settings

13. Click **OK** to complete the startup Setup Wizard.

2.3 Adding and Connecting the IP Cameras

2.3.1 Adding the Online IP Cameras

The main function of the NVR is to connect to network cameras and record the video from them. So before you can get live images or record a video, you should add the network cameras.

Before you start:

Ensure the network connection is valid and correct. For detailed settings and configuring of the network, please see *Chapter Checking Network Traffic* and *Chapter Configuring Network Detection*.

- **OPTION 1:**

Steps:

1. Move the mouse to the top of the screen or right-click the mouse when you in the live view mode to show the right-click menu.

Figure 2. 12 Right-click Menu

2. Select (Auto) or (Manual) on your demand.

- **Auto**

The NVR will add the detected IP cameras automatically by the default administrator user name and password.

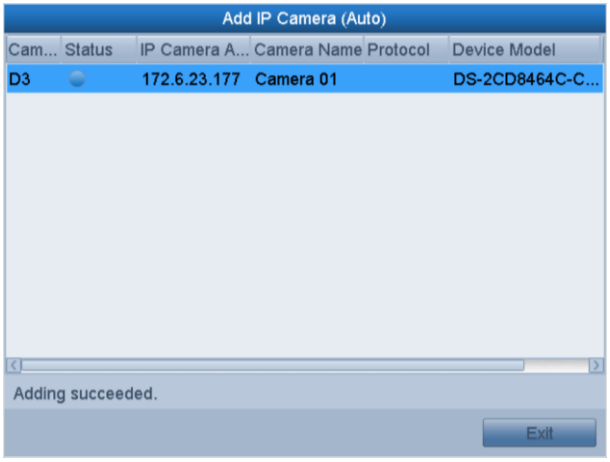

Add IP Camera (Auto)
Cam... Status IP Camera A... Camera Name Protocol Device Model
D3 172.6.23.177 Camera 01 DS-2CD8464C-C...
Adding succeeded.
Exit

Figure 2. 13 Auto Adding IP Camera Screen

NOTE

If the user name and password was changed, you will have to add the camera manually.

- **Manual**

Steps:

1. To add the online cameras with same network range:
   1) The detected online camera will be listed in the camera list, as shown in the figure below.

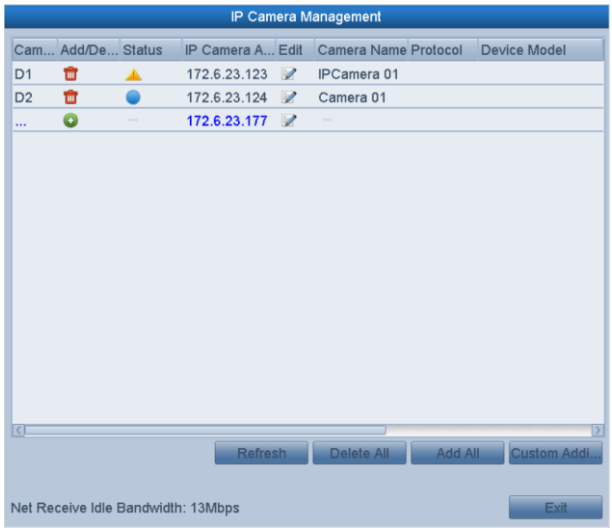


Figure 2. 14 Manual Adding IP Camera Screen

2) Click the button to add the camera.

Explanation of the icons:

Icon	Explanation	Icon	Explanation
	Edit basic parameters of the camera		Add the detected IP camera.
	The camera is connected; you can click the icon to get the live view of the camera.		The camera is disconnected; you can click the icon to get the exception information of camera.
	The camera is connected.		Advanced settings of the camera.
	Delete the IP camera		

2. To add other IP cameras:

1) Click the **Custom Add** button to pop up the Add IP Camera (Custom) screen.

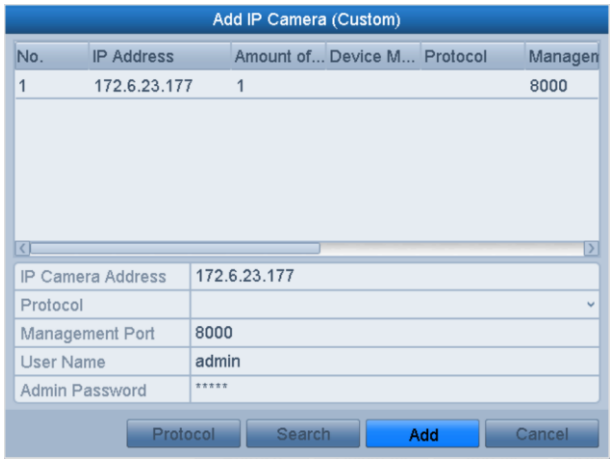


Figure 2. 15 Custom Adding IP Camera Screen

2) You can edit the IP address, protocol, management port, etc.

3) Click **Add** to add the camera.

- **OPTION 2:**

Steps:

1. Enter the Camera Management screen.

   Menu> Camera> Camera

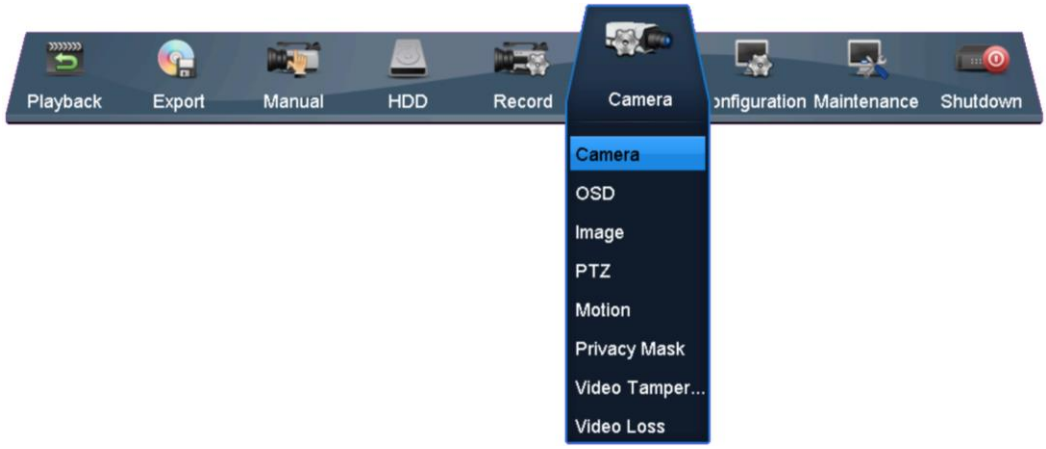


Figure 2. 16 Main Menu

2. Repeat the step 1 and 2 for adding IP cameras manually.

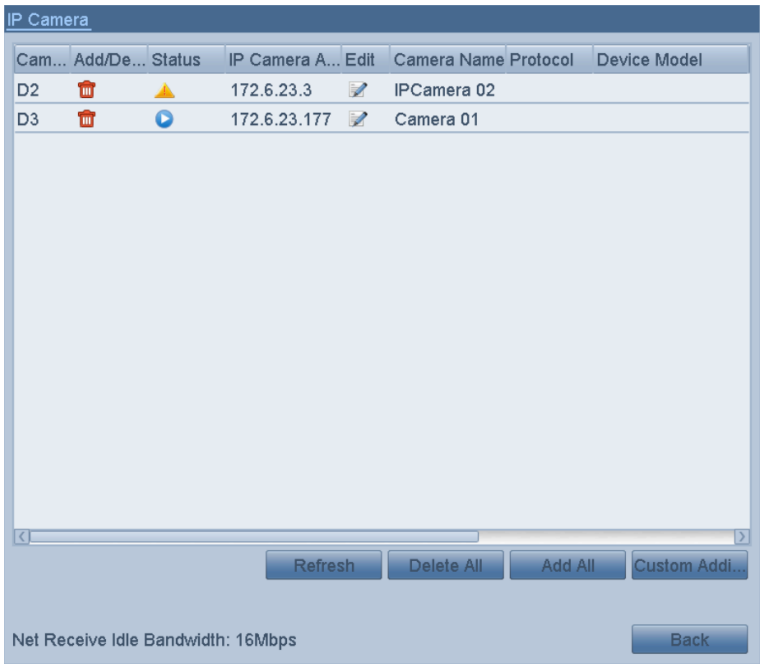


Figure 2. 17 IP Camera Management Screen

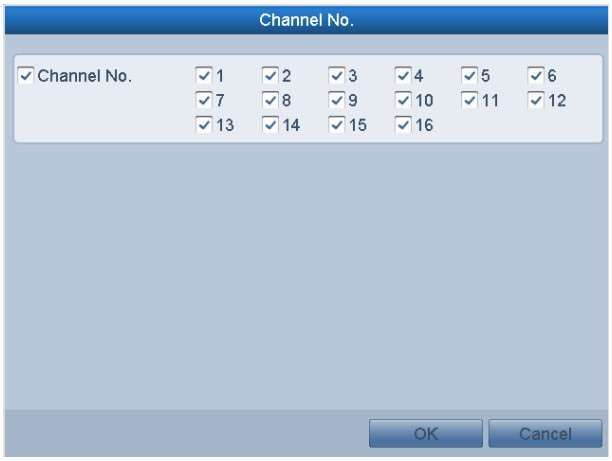


Figure 2. 18 Selecting Multiple Channels

2.3.2 Editing the Connected IP cameras and Configuring Customized Protocols

After the adding the IP cameras, the camera information is displayed. This can be edited.

Steps:

1. Click the icon to edit the parameters; you can edit the IP address, protocol and other parameters.

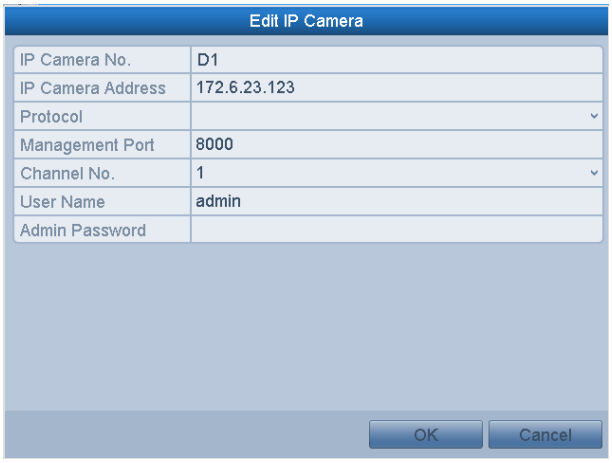


Figure 2. 19 Edit the Parameters

2. Click **OK** to save the settings and exit the editing screen.

To edit advanced parameters:

1. Drag the horizontal scroll bar to the right-most side and click the icon.

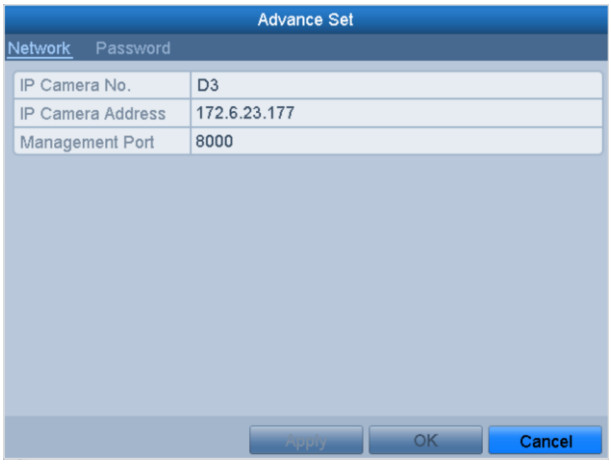


Figure 2. 20 Camera Network Configuration

2. You can edit the network information and the password of the camera.

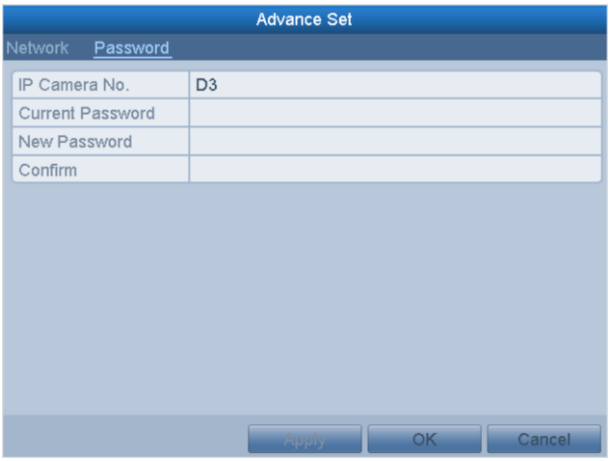


Figure 2. 21 Camera Password Configuration

3. Click **Apply** to save the settings and **OK** to exit the screen.

Advanced configuring the customized protocols

To connect to network cameras that are not configured within the standard protocols, you can configure a customized protocol for them.

Steps:

1. Click the **Protocol** button in the Add IP Camera (Custom) screen to enter the protocol.

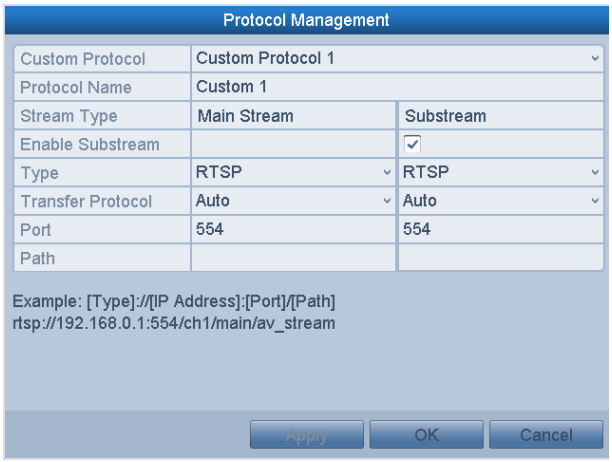


Figure 2. 22 Protocol Management Screen

2. There are 16 customized protocols provided in the NVR, you can edit the protocol name; and select to enable the sub-stream.

NOTE

Before customizing the protocol for the network camera, you have to contact the manufacturer of the network camera to consult the URL (uniform resource locator) for getting main stream and sub-stream.

Example: The format of the URL is: [Type]://[IP Address of the network camera]:[Port]/[Path]. E.g., rtsp://192.168.1.55:554/ch1/main/av_stream.

Protocol Name: Edit the name for the custom protocol.

Enable Substream: If the network camera does not support sub-stream or the sub-stream is not needed, leave the checkbox empty.

Type: The network camera adopting custom protocol must support getting stream through standard RTSP.

Transfer Protocol: Select the transfer protocol for the custom protocol.

Port: Set the port number for the custom protocol.

Path: Set the resource path for the custom protocol. E.g., ch1/main/av_stream.

3. Click **Apply** to save the settings and click **OK** exit.
4. Choose the protocol type of transmission and choose the transfer protocols.

NOTE

The protocol type and the transfer protocols must be supported by the network camera.

After adding the customized protocols, you can see the protocol name is listed in the dropdown list, please refer to Figure 2. 23.

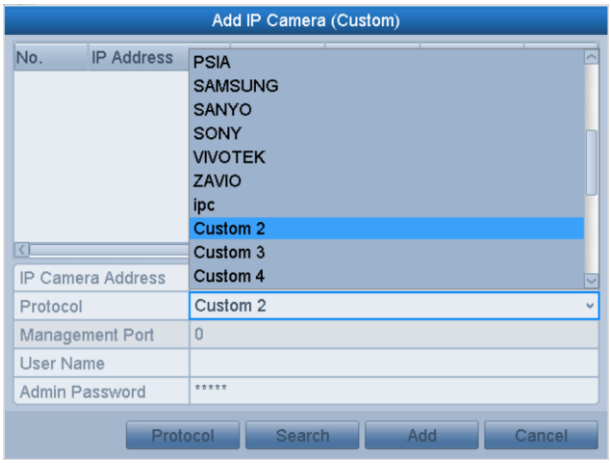


Figure 2. 23 Protocol Setting

5. Select the protocols you just added to validate the connection of the network camera.

2.3.3 Editing IP cameras connected to the PoE interfaces

The PoE interfaces enables the NVR system to pass electrical power safely, along with data, on Ethernet cabling to the connected network cameras.

NOTE

If you want to connect 1 online camera and 3 network cameras via PoE interface, you must disable 1 PoE interface in the **Edit IP camera** panel.

To add Cameras to NVR supporting PoE function:

Before you start:

Connect the network cameras via the PoE inputs.

Steps:

1. Enter the Camera Management screen.

   Main menu> Camera> Camera

   You can see the connected cameras are listed.

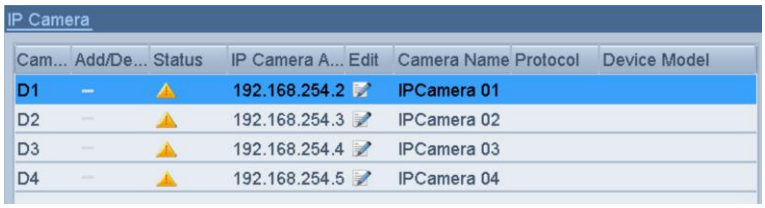


Figure 2. 24 Camera List

NOTE

The cameras conneced to the PoE interface cannot be deleted in this menu.

2. Click the button, and select the Adding Method in the drop-down list.
   - **Plug-and-Play:** It means that the cameras are connected to the PoE interface, so in this case, the parameters of the camera cannot be edited. The IP address of the camera can only be edited in the

Network Configuration screen, see *Chapter 9.1 Configuring General Settings* for detailed information.

Figure 2. 25 Edit IP Camera Screen - Plug-and-Play

- **Manual:** You can disable the PoE interface by selecting the manual.

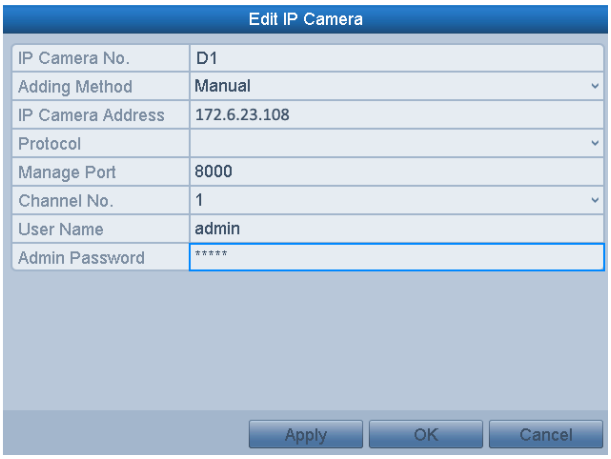


Figure 2. 26 Edit IP Camera Screen - Manual

3. Click the **Apply** button when finished.

Chapter 3 Live View

3.1 Introduction of Live View

Live view shows you the live video feed from the camera. The NVR automatically enters Live mode when powered on.

Live View Icons

In the live view mode, there are icons at the right top of the screen for each channel, displaying the status of the channel.

Table 3. 1 Live View Icons

Icons	Description
	Alarm (video loss, tampering, motion detection or sensor alarm)
	Record (manual record, schedule record, motion detection or alarm triggered record)
	Alarm & Record

3.2 Operations in Live View Mode

In live view mode, there are many functions. The functions are listed below.

- **Single Screen**: displays one screen on the monitor.
- **Multi-screen:** displays multiple screens on the monitor simultaneously.
- **Auto-switch:** the screen switches through the cameras (you must set the dwell time). Menu>Configuration>Live View>General.
- **Start Recording:** continuous record and motion detection record.
- **Output Mode:** select the output mode (Standard, Bright, Gentle or Vivid).
- **Playback:** enter playback for current day.
- **Add IP Camera:** The shortcut to add IP camera automatically or manually.

3.2.1 Using the Mouse in Live View

Right-click on the live view window, and a live view toolbar appears on the top of the screen as follows:

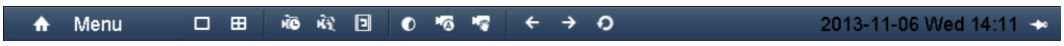


Figure 3. 9 Live View Toolbar

Table 3. 2 Live View Icons

Name	Description
Menu	Enter the main menu of the system.
	Switch to the single full screen.
	Switch to multiscreen.
	Switch to the previous/next screen.
	Enable/disable the auto-switch.
	Start continuous recording or motion detection recording of all channels.
	Add IP camera automatically or manually.
	Enter playback (starts playing back the video of the selected channel).
	Four modes of output supported, including Standard, Bright, Gentle and Vivid.
	Auto hide/ lock the live view toolbar.

NOTE

- The *dwell time* must be set to use the **Start Auto-switch** function**.**

3.2.2 Quick Setting Toolbar in Live View Mode

On the screen of each channel, there is a quick setting toolbar which is displayed when you singly click the mouse on the screen.

Figure 3. 10 Quick Setting Toolbar

Table 3. 3 Description of Quick Setting Toolbar Icons

Icons	Description	Icons	Description	Icons	Description
	Enable/Disable Record		Instant Playback		Mute/Audio on
	PTZ Control		Digital Zoom		Image Settings
	Live View Strategy		Close		

Instant Playback plays the last 5 minutes recorded.

Digital Zoom. You can draw an area in the live picture to zoom into, as shown in Figure 3. 11.

Figure 3. 11 Digital Zoom

Image Settings icon to enter the Image Settings menu.

You can set the image parameters: brightness, contrast, saturation and hue.

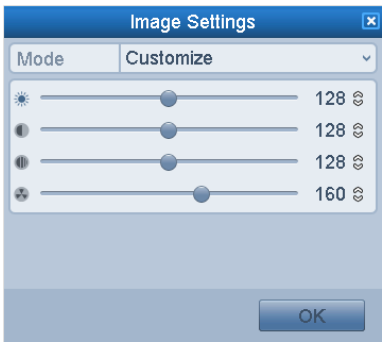


Figure 3. 12 Image Settings- Customize

Live View Strategy to configure the stream: Real-time, Balanced, Fluency.

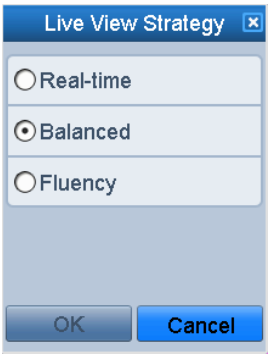


Figure 3. 13 Live View Strategy

3.3 Adjusting Live View Settings

Live View settings can be configured to suit the end user. You can configure the output interface, dwell time for cameras, on/off audio, the screen number for each channel, etc.

Steps:

1. Enter the Live View Settings screen.
   Menu> Configuration> Live View

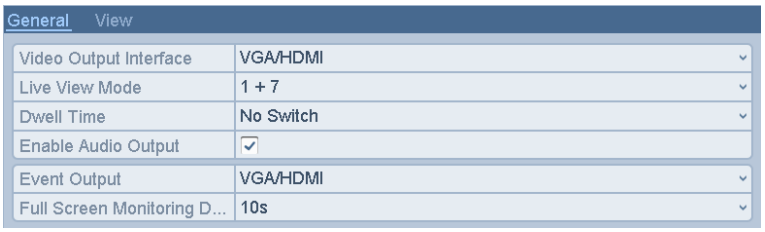


Figure 3. 14 Live View-General

The settings available in this menu include:

- **Video Output Screen:** Output to be configured. Only VGA/HDMI is selectable by default.
- **Live View Mode:** Display mode to be used for Live View.
- **Dwell Time:** The time in seconds to *dwell* between switching of channels when enabling auto-switch in Live View.
- **Enable Audio Output:** Enables/disables audio output.
- **Event Output:** Select the output to show event video.
- **Full Screen Monitoring Dwell Time:** The time in seconds to display alarm event screen.

2. Setting Cameras Order

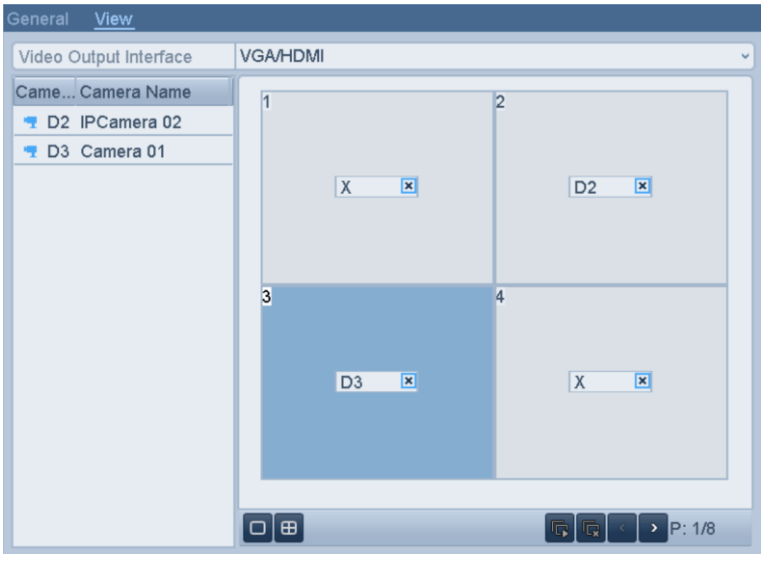


Figure 3. 15 Live View- Camera Order

1) Select a **View** mode: .

2) Double-click on the channel number to display the channel in the window.

You can click button to start live view for all the channels and click to stop all the live view (covert).

3) Click the **Apply** button to save the setting.

3.4 User Logout

After logging out, the monitor turns to the live view mode, you will need to enter the user name and password to log in again.

Steps:

1. Enter the Shutdown menu.
   Menu>Shutdown

Figure 3. 16 Shutdown

2. Click **Logout**.

   NOTE

   After you have logged out the system, you will need to enter a user name and password to unlock the system.

Chapter 4 PTZ Controls

4.1 Configuring PTZ Settings

Follow the procedure to set the parameters for PTZ. The configuring of the PTZ parameters should be done before you control the PTZ camera.

Steps:

1. Enter the PTZ Settings screen.

   Menu >Camera> PTZ

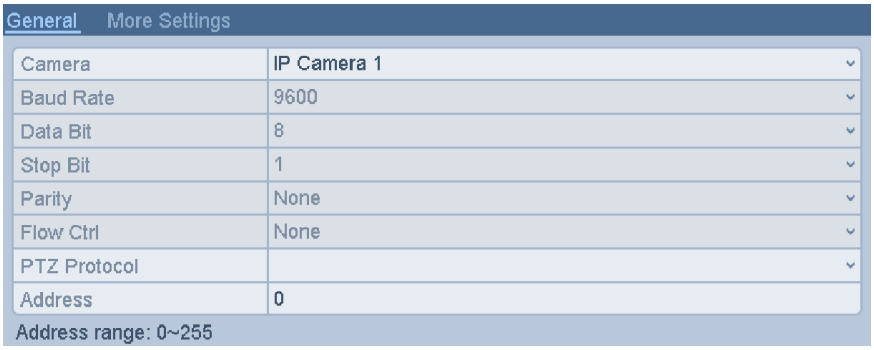


Figure 4. 1 PTZ- General

2. Select the camera for PTZ setting in the **Camera** dropdown list.
3. Enter the settings of the PTZ camera.

   Example: If the PTZ camera uses the Pelco D protocol, you should select Pelco D in the PTZ Protocol field.
4. Click **Apply** button to save the settings.

4.2 Setting PTZ Presets, Patrols & Patterns

4.2.1 Customizing Presets

Follow the steps to set the Preset location that you want the PTZ camera to goto when an event takes place.

Steps:

1. Enter the PTZ Control screen.

   Menu>Camera>PTZ>More Settings

Figure 4. 2 PTZ- More Settings

2. Go to the position where you want to set the preset.
3. Click the round icon before you **Save Preset**.
4. Enter the preset number to save the preset.

Repeat the steps2-4 to add more presets. If the number of the presets you want to save is more than 17, you can click […] and select the available numbers.

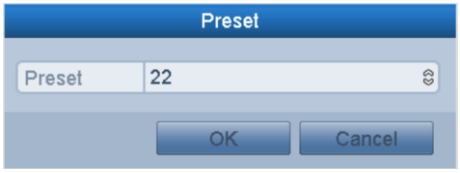


Figure 4. 3 More Presets

4.2.2 Calling Presets

Call preset in the PTZ setting screen:

Steps:

1. Enter the PTZ Control screen.

   Menu>Camera>PTZ>More Settings

2. Check the round icon of **Call Preset**.

Figure 4. 4 PTZ- Call Preset

3. Select the preset number.

Call preset in live view mode:

Steps:

1. Press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar to enter the PTZ setting menu in live view mode.

Figure 4. 5 PTZ Toolbar

2. Select the C**amera** in the list on the menu.
3. Double click the preset in the **Preset** list to call it.

4.2.3 Customizing Patrols

Patrols can be set to move the camera to different presets, allowing a duration between presets.

Steps:

1. Enter the PTZ Control screen.
   Menu>Camera>PTZ>More Settings
2. Select patrol number in the drop-down list.

3. Select the under Patrol option box to add the presets.

Figure 4. 6 PTZ- Add Key Point

4. Configure preset settings: duration & speed.

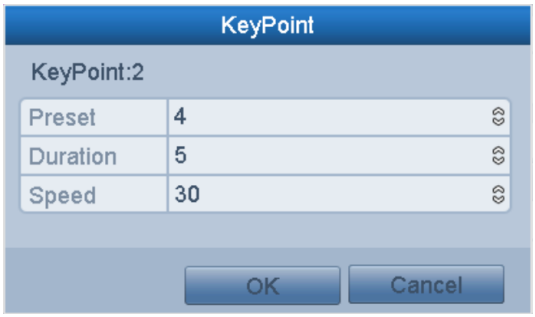


Figure 4. 7 Key Point Configuration

5. Click **OK** to save the preset to the patrol.

Repeat the above steps to add more presets.

You can click the icon to delete presets pr click the trash icon to delete all presets.

Select a preset, then click or button to adjust the order of the presets.

Figure 4. 8 Key Points Deletion

4.2.4 Calling Patrols

Calling a patrol makes the PTZ camera move as per programmed patrol.

Calling patrol in the PTZ setting screen:

Steps:

1. In the PTZ setting screen.
   Menu> Camera> PTZ> More Settings
2. Select the patrol number, and then click to call the patrol.
3. Click to stop it.

Calling patrol in live view mode:

Steps:

1. Press PTZ control on the front panel or on the remote, or click PTZ Control icon on the quick setting toolbar, to show the PTZ control toolbar.
2. Select **Patrol** on the control bar.
3. Double click the patrol or select the patrol and click to call it.

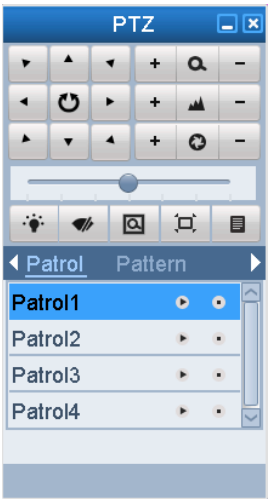


Figure 4. 9 PTZ Toolbar- Patrol

4.2.5 Customizing Patterns

Patterns can be saved by recording the movement of the PTZ. You can call the pattern to repeat this recording.

Steps:

1. Enter the PTZ Control screen.

   Menu>Camera>PTZ>More Settings

2. Select pattern number in the option box.

Figure 4. 10 PTZ- Pattern

3. Click and use your mouse to drag the image or click the eight directional buttons in the control box under the image to move the PTZ camera.

   The movement of the PTZ is recorded as the pattern.

4. Click to save the pattern.

4.2.6 Calling Patterns

Calling pattern in the PTZ setting screen

Steps:

1. Enter the PTZ Control screen.
   Menu>Camera>PTZ>More Settings
2. Select the pattern number.
3. Click , then the PTZ moves according to the pattern.
4. Click to stop it.

Figure 4. 11 PTZ- Calling Pattern

Call pattern in live view mode

Steps:

1. In the live view mode, press PTZ control on the front panel or on the remote control, or click PTZ Control icon on the quick setting toolbar.
2. And then select **Pattern** on the control bar.
3. Double click the pattern or select the pattern and click to call it.

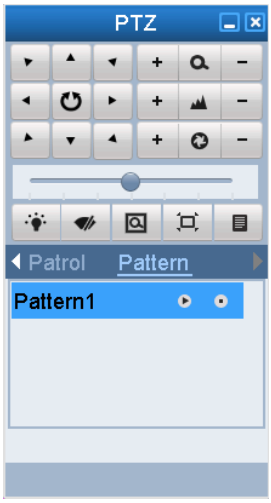


Figure 4. 12 PTZ Toolbar- Pattern

4.3 PTZ Control Toolbar

In the Live View, you can press the PTZ Control button on the front panel or on the remote control, select the PTZ Control icon to enter the PTZ toolbar.

NOTE

In PTZ control mode, the PTZ panel will be displayed when a mouse is connected with the NVR. If no mouse is connected, the PTZ icon will be displayed in the lower-left corner of the window, indicating that this camera is in PTZ control mode.

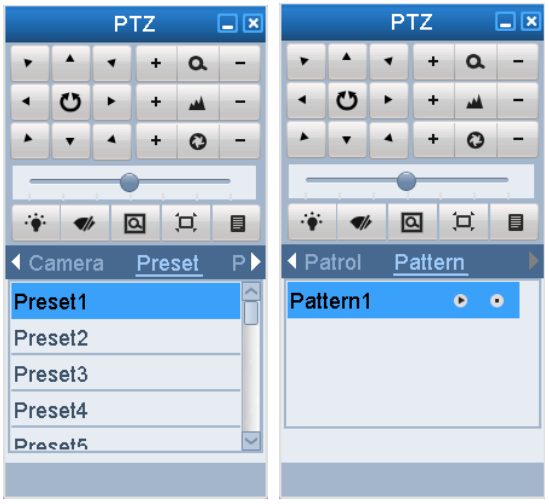


Figure 4. 13 PTZ Toolbar

Table 4. 1 PTZ toolbar icons

Icon	Description	Icon	Description	Icon	Description
	Direction button and auto-cycle button		Zoom+, Focus+, Iris+		Zoom-, Focus-, Iris-
	Speed bar of PTZ movement		Light on/off		Wiper on/off
	3D positioning		Image Centralization		Menu
	Previous item		Next item		Start the pattern/patrol
	Stop patrol or pattern		Minimize PTZ panel		Exit

Chapter 5 Record Settings

5.1 Configuring Recording Parameters:

By configuring the recording parameters you can define the parameters which affect the image quality, such as the transmission stream type, the resolution, etc.

1. Enter the Record settings menu to configure the recording parameters:

   Menu>Record> Parameters

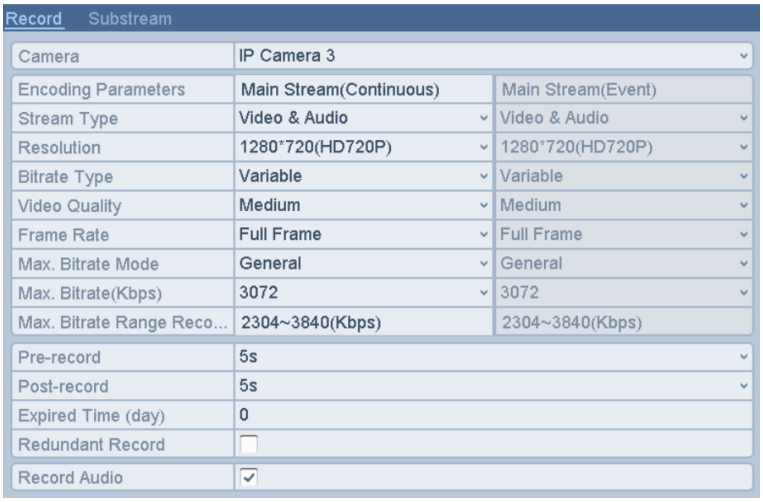


Figure 5. 9 Recording Parameters

2. Parameters Setting for Recording

   1) Select **Record** tab page to configure. You can configure the stream type, the resolution, etc.

      - **Pre-record:** The time you set to record before the scheduled time or event. For example, when an alarm triggered the recording at 10:00, if you set the pre-record time as 5 seconds, the camera records it at 9:59:55.
      - **Post-record:** The time you set to record after the event or the scheduled time. For example, when an alarm triggered the recording ends at 11:00, if you set the post-record time as 5 seconds, it records till 11:00:05.
      - **Expired Time:** The expired time is the longest time for a record file to be kept on the HDD, if the deadline is reached, the file will be deleted. You can set the expired time to 0, and then the file will not be deleted. The actual storage time for the file should be determined by the capacity of the HDD.
      - **Redundant Record:** Enabling redundant record means you save the record in the redundant HDD. See *Chapter Configuring Redundant Recording*.
      - **Record Audio:** Check to enable or disable audio recording.

   2) Click **Apply** to save the settings.

3. Parameters Settings for Sub-stream

   1) Enter the Sub-stream tab page.

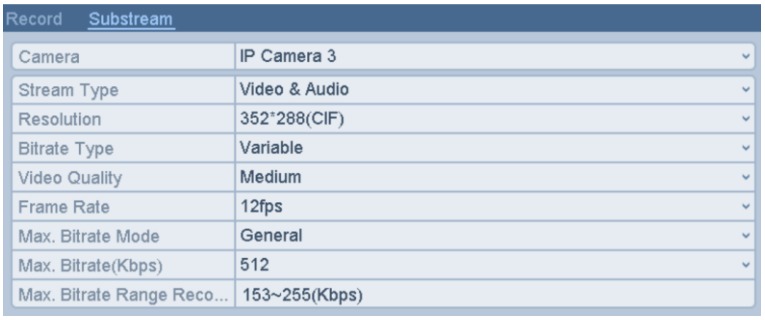


Figure 5. 10 Sub-stream Parameters

2) Configure the parameters of the camera.

3) Click **Apply** to save the settings.

4. Configure the overwrite mode of the HDD (Menu>Record>Advanced). Check ☑ checkbox to enable the overwrite mode, the record files will be overwritten when the HDD becomes full. If this is not selected, recording will stop when the HDD is full.

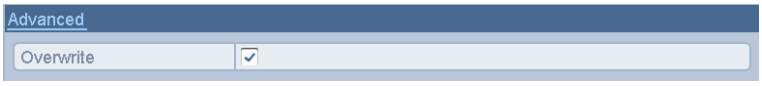


Figure 5. 11 Overwrite Mode

5.2 Configuring Record Schedule

To set the record schedule.

Steps:

1. Enter the Record Schedule screen.

   Menu>Record>Schedule

2. Configure Record Schedule

   1) Select Record Schedule.

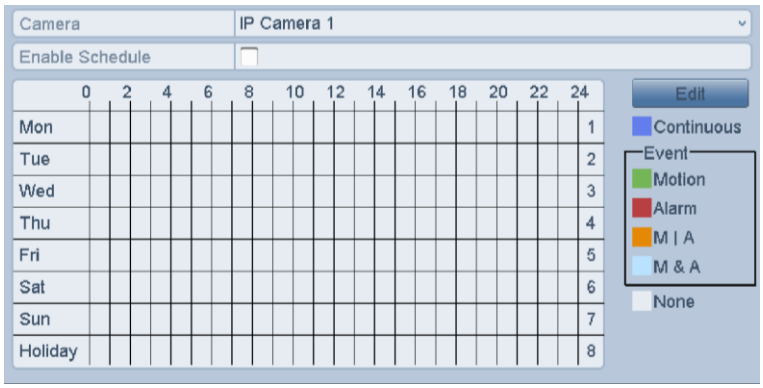


Figure 5. 12 Record Schedule

   2) Select the camera you want to configure.

   3) Select **Enable Schedule** checkbox.

   4) Click **Edit** button or click on the color icon under the edit button and draw the schedule line on the panel.

   Edit the schedule:

   I. In the message box, you can select the day to which you want to set schedule.

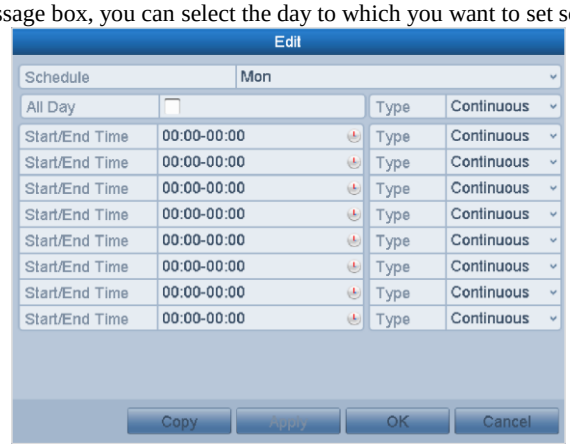


Figure 5. 13 Recording Schedule Screen

   You can click the button to set the accurate time of the schedule.

   II. To schedule an all-day recording, check **All Day**.

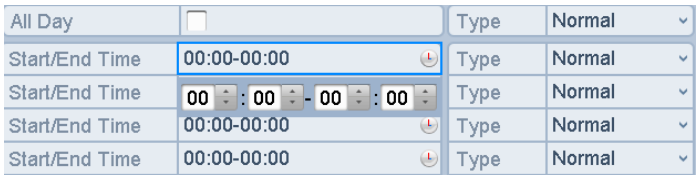


Figure 5. 14 Edit Schedule

III. To configure other schedule, leave the **All Day** checkbox blank and set the Start/End times.

NOTE

Up to 8 time periods can be configured per day. Time periods cannot be overlapped with each other.

The schedule can be copied to other days.

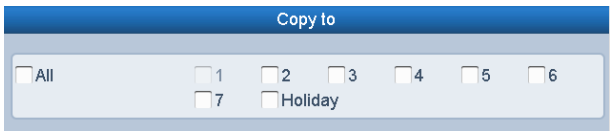


Figure 5. 15 Copy Schedule to Other Days

IV. Click **OK** to save setting.

V. Click **Apply** in the Record Schedule screen to save the settings.

Draw the schedule:

Click on the color icons, you can select the schedule type as continuous or event.

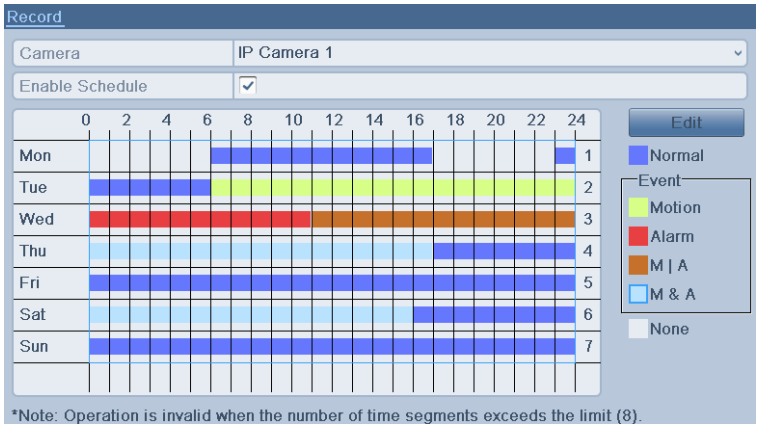


Figure 5. 16 Draw the Schedule

Descriptions of the color icons are shown in the figure below.

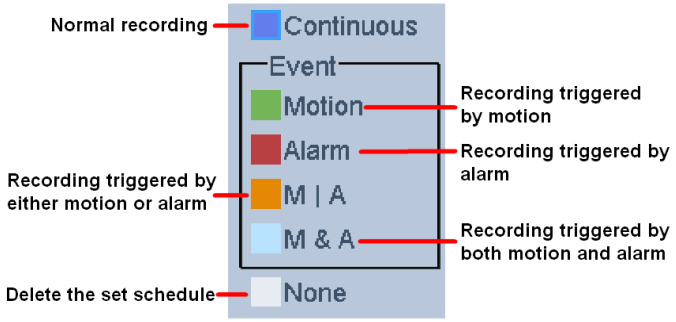


Figure 5. 17 Color Icons

Click the **Apply** button to save the settings.

The settings can also be copied to other channels, click **Copy**, and then select the channels you want to copy to.

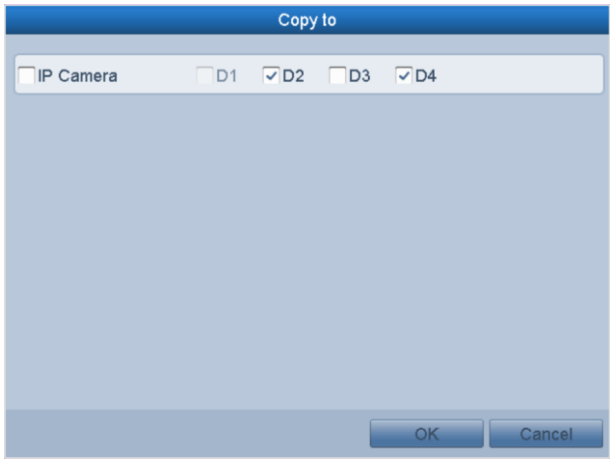


Figure 5. 18 Copy Schedule to Other Channels

5.3 Configuring Motion Detection Record

Follow the steps to set the motion detection recording. In the live view mode, once a motion detection event takes place, the NVR can analyze it and do many actions to handle it. Enabling motion detection function can trigger channels to start recording, trigger full screen monitoring, audio warning, notify the surveillance center, etc.

Steps:

1. Enter the Motion Detection menu.

   Menu>Camera>Motion

Figure 5. 19 Motion Detection

2. Configure Motion Detection:
   1) Select the camera you want to configure.
   2) Check **Enable Motion Detection**.
   3) Drag and draw the motion area using the mouse. If you want to set the motion to the whole area, click **Full Screen**. To clear the motion detection area, click **Clear**.

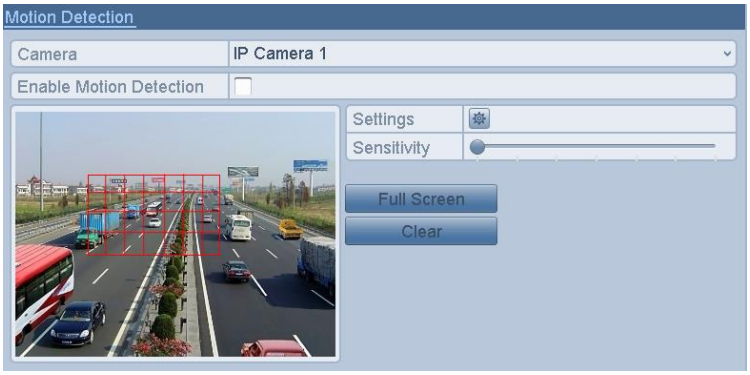


Figure 5. 20 Motion Detection- Mask

   4) Click **Setting**, and the message box for channel information will pop up.

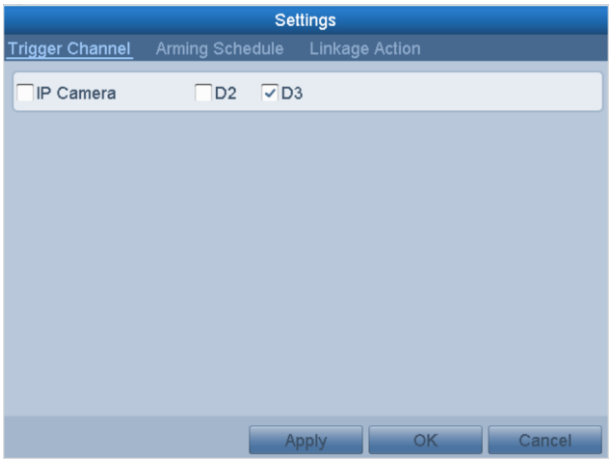


Figure 5. 21 Motion Detection Setting

5) Select the channels in which you want the motion detection event to trigger recording.
6) Click **Apply** to save the settings.
7) Click **OK** to revert back to the upper level menu.
8) Exit the Motion Detection menu.

3. Edit the Motion Detection Record Schedule. For the detailed information of schedule configuration, see *Chapter Configuring Record Schedule.*

5.4 Configuring Alarm Triggered Record

Follow the procedure to configure alarm input recording.

Steps:

1. Enter the Alarm setting menu.

   Menu> Configuration> Alarm

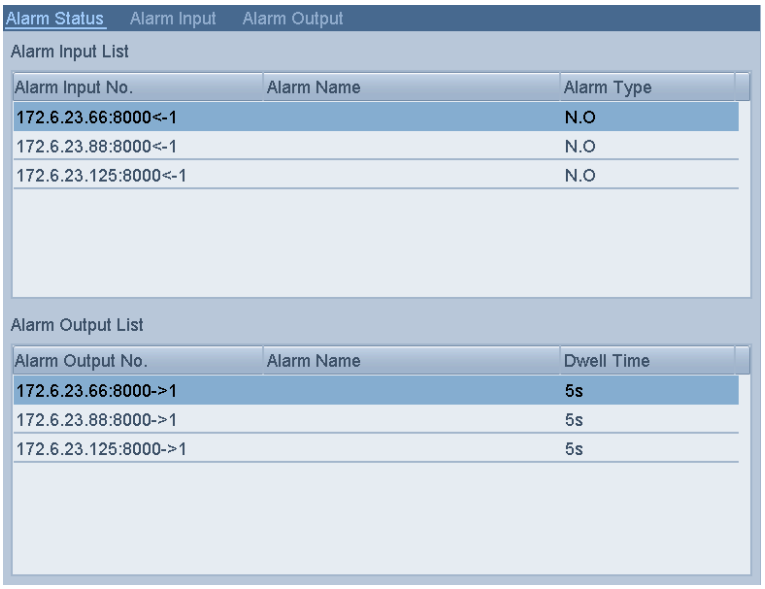


Figure 5. 22 Alarm Settings

2. Click the **Alarm Input** tab.

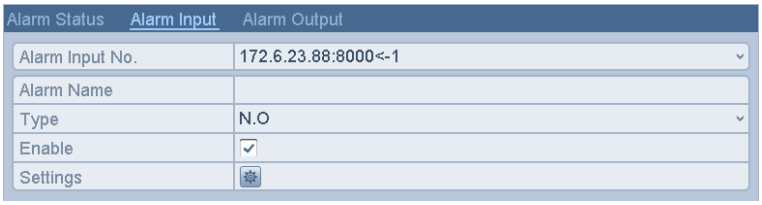


Figure 5. 23 Alarm Settings- Alarm Input

   1) Select the Alarm Input number and configure the alarm parameters.
   2) Select N.O (normally open) or N.C (normally closed) for alarm contact type.
   3) Check **Enable**.
   4) Click **Settings**.

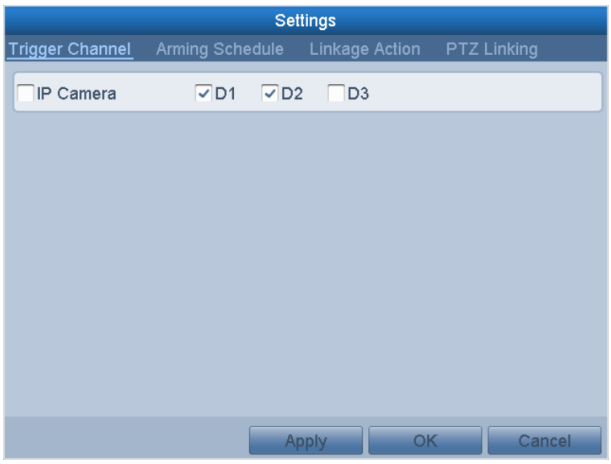


Figure 5. 24 Alarm Settings

5) Select the cameras you would like to record if the input is triggered.
6) Check the checkbox to select channel.
7) Click **Apply** to save settings.
8) Click **OK** to return to the previous menu.

The configuration can be copied to other inputs.

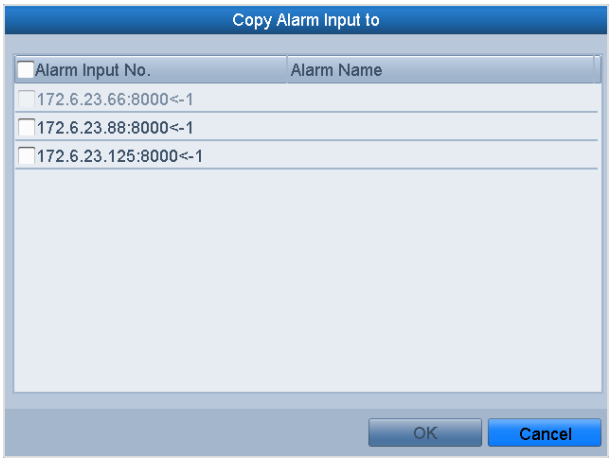


Figure 5. 25 Copy Alarm Input

3. Edit the Alarm triggered record settings in the Record Schedule Setting page. For the detailed information of schedule configuration, see *Chapter Configuring Record Schedule.*

5.5 Manual Record

Follow the steps to set the parameters for manual record. The manual recording takes priority over the scheduled recording.

Steps:

1. Enter the Manual settings screen.

   Menu> Manual

   Or press the **REC** button on the remote control.

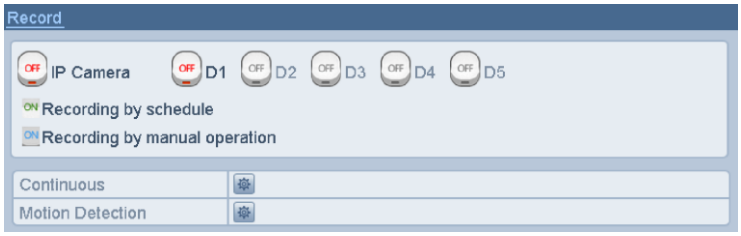


Figure 5. 26 Manual Record

2. Enabling Manual Record

   1) Select **Record** on the left bar.

   2) Click the status button before camera number to change to .

3. Disable manual record.

   Click the status button to change to .

   NOTE

   The green icon ON means that the channel is configured to the record schedule. After rebooting the NVR, manual recording is canceled.

5.6 Configuring Holiday Record

Follow the steps to configure the record schedule on holidays. You may want to have a different configuration for holidays.

Steps:

1. Enter the Record setting screen.

   Menu>Record> Holiday

Holiday Settings
No. Holiday Name Status Start Date End Date Edit
1 Holiday1 Enabled 2013-08-01 2013-08-02
2 Holiday2 Disabled 1.Jan 1.Jan
3 Holiday3 Disabled 1.Jan 1.Jan
4 Holiday4 Disabled 1.Jan 1.Jan
5 Holiday5 Disabled 1.Jan 1.Jan
6 Holiday6 Disabled 1.Jan 1.Jan
7 Holiday7 Disabled 1.Jan 1.Jan
8 Holiday8 Disabled 1.Jan 1.Jan
9 Holiday9 Disabled 1.Jan 1.Jan
10 Holiday10 Disabled 1.Jan 1.Jan
11 Holiday11 Disabled 1.Jan 1.Jan

Figure 5. 27 Holiday Settings

2. Enable Edit Holiday schedule.

   1) Click to enter the Edit screen.

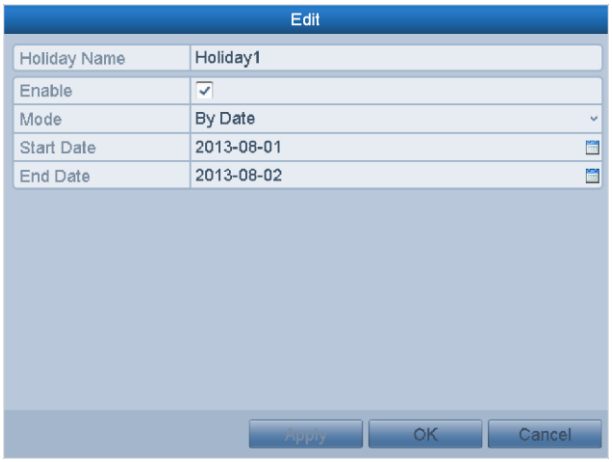


Figure 5. 28 Edit Holiday Settings

   2) Check **Enable Holiday**.
   3) Select Mode from the dropdown list.

      There are three different modes for the date format to configure holiday schedule.
   4) Set the start and end date.
   5) Click **Apply** to save settings.
   6) Click **OK** to exit the Edit screen.

3. Enter Record Schedule settings screen to edit the holiday recording schedule. See *Chapter 6.2 Configuring Record Schedule.*

5.7 Configuring Redundant Recording

Enabling redundant recording, this is saving recorded files on the redundant HDD.

Steps:

1. Enter HDD Information screen.

   Menu> HDD

Figure 5. 29 HDD General

2. Select the **HDD** and click to enter the Local HDD Settings screen.

   1) Set the HDD property to Redundancy.

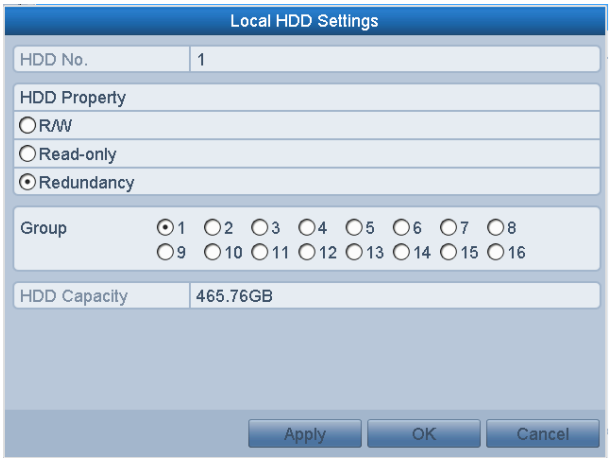


Figure 5. 30 HDD General-Editing

   2) Click **Apply** to save the settings.

   3) Click **OK** to back to the upper level menu.

   There must be at least one other HDD which is in Read/Write status.

3. Enter the Record setting screen.

   Menu> Record> Parameters

   1) Select **Record** tab**.**

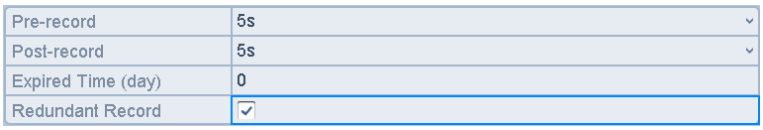


Figure 5. 31 Record Parameters

   2) Select Camera you want to configure from the drop-down list.

   3) Check **Redundant Record**.

   4) Click **Apply** to save settings.

Repeat the above steps for configuring other cameras.

5.8 Configuring HDD Group for Recording

You can group the HDDs and save the record files in a certain HDD group.

Steps:

1. Enter HDD setting screen.

   Menu>HDD

HDD Information
L... Capacity Status Property Type Free Space Gr... Edit D...
1 465.76GB Normal R/W Local 432GB 1
2 931.51GB Normal R/W Local 859GB 1

Figure 5. 32 HDD General

2. Select **Advanced** on the left bar.

Figure 5. 33 Storage Mode

3. Select **General** in the left bar.

   Click to enter editing screen.

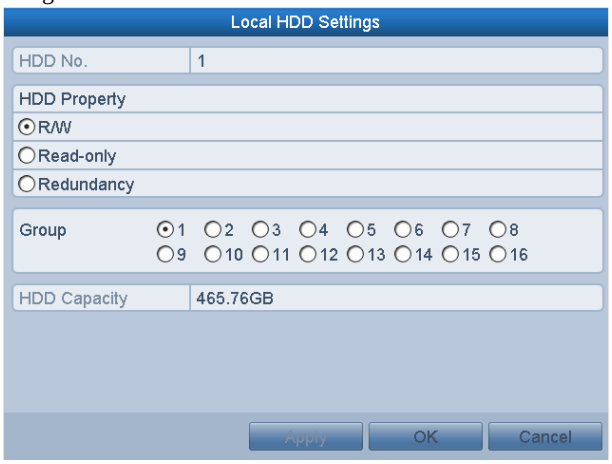


Figure 5. 34 Local HDD Settings

4. Configuring HDD group.
   1) Select a number for the HDD group.
   2) Click **Apply** and in the pop-up message box, click **Yes** to save your settings.
   3) Click **OK** to back to the upper level menu.

Repeat the above steps to configure more HDD groups.

5. Select the Channels that you want recorded in the HDD group.
   1) Select **Advanced** on the left bar.
   2) Select Group number in the dropdown list of **Record on HDD Group**

3) Check the channels you want to save in this group.
4) Click **Apply** to save settings.

After configuring the HDD groups, you can configure the recording settings following the procedure provided in *Chapter 5.2-5.7*.

5.9 Files Protection

You can lock the recorded files or set the HDD property to Read-only to protect the record files from being overwritten.

Protect file by locking the record files:

Steps:

1. Enter Playback setting screen.

   Menu> Playback

Figure 5. 35 Playback

2. Select the channels you want to investigate by checking the checkbox to .
3. Configure the record type, file type start/end time.
4. Click **Search** to show the results.

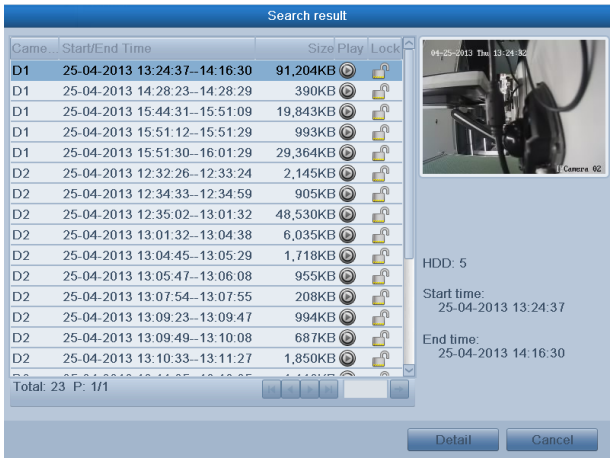


Figure 5. 36 Playback- Search Result

5. Protect the record files.
   1) Locate the record files you want to protect, and then click the icon this will turn to , indicating that the file is locked.
   2) Click to change it to to unlock the file and the file is not protected.

Protect file by setting HDD property to Read-only

Steps:

1. Enter HDD setting screen.

   Menu> HDD

Figure 5. 37 HDD General

2. Click to edit the HDD you want to protect.

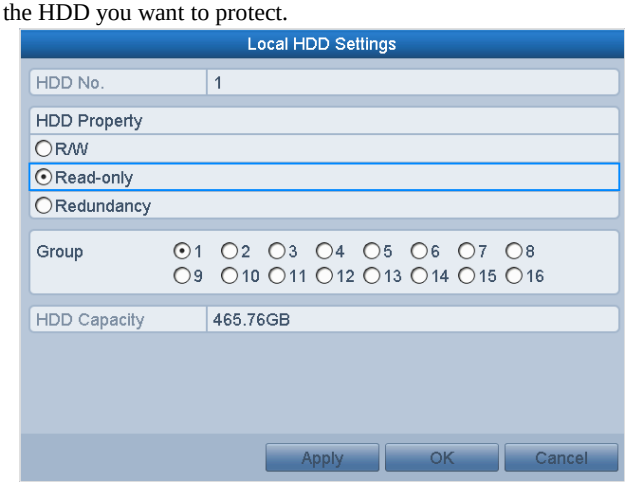


Figure 5. 38 HDD General- Editing

3. Set the HDD property to Read-only.
4. Click **OK** to save settings and revert back to the upper level menu.

NOTE

- You cannot save any files to a Read-only HDD. If you want to save files to the HDD, change the property to R/W.
- If there is only one HDD and is set to Read-only, the NVR will not record any files. Only live view mode is available.
- If you set the HDD to Read-only, the NVR is writing files to it, then the file will be saved on the next HDD. If there is only one HDD, recording will be stopped.

Chapter 6 Playback

6.1 Playing Back Record Files

6.1.1 Playing Back by Channel

To play back the recorded video files of a specific channel in the live view mode.

- **OPTION 1:**

Select a channel in live view mode using the mouse and click the button in the quick setting toolbar.

NOTE

In instant playback mode, only record files recorded during the last five minutes on this channel will be played back.

Figure 6. 1 Instant Playback Screen

- **OPTION 2:**

1. Enter the Playback screen.
   Right-click on the live view window, and the live view toolbar appears at the top of the screen. Then click the icon to enter the Playback screen.
   Under multi-screen live view mode, the recorded files of the top-left channel will be played back.

NOTE

Pressing numerical buttons will switch playback to the corresponding channels during the playback process.

2. Playback management.
   The toolbar in the bottom part of Playback screen can be used to control playback, as shown in Figure 6. 2.

Figure 6. 2 Playback Screen

Click the channel(s) to execute simultaneous playback of multiple channels.

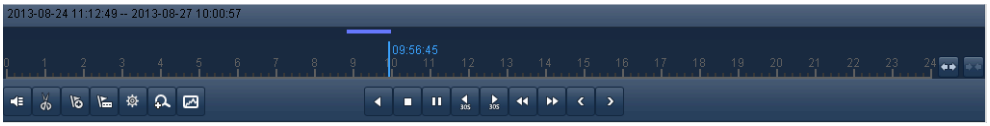


Figure 6. 3 Playback Toolbar

NOTE

The 2013-08-24 11:12:49 -- 2013-08-27 10:00:57 indicates the start/end time of the record.

Table 6. 1 Playback Toolbar

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause/Play reverse
	Pause/Play		Stop		30s reverse		30s forward
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full screen		Exit
Normal	Normal playback						

6.1.2 Playing Back by Time

To select a specified time duration. Multi-channel simultaneous playback is supported.

Steps:

1. Enter playback screen.

   Menu>Playback

2. Check the channel(s) from the channel list and then to select a date on the calendar.

Figure 6. 4 Playback Calendar

NOTE

If there are record files for that camera on that day, in the calendar, will be displayed 24. If not 24

In the Playback screen:

The toolbar on the bottom part of the screen can be used to control playback.

Figure 6. 5 Playback by Time

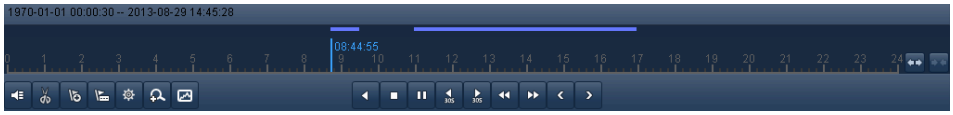


Figure 6. 6 Toolbar Controls

NOTE

The indicates the start/end time of the record.

Table 6. 2 Playback-by-time Icons

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause/Play reverse
	Pause/Play		Stop		30s reverse		30s forward
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
	Normal playback						

Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.

6.1.3 Playing Back by Event Search

Steps:

1. Enter the Playback screen.
   Menu>Playback
2. Select the **Event** in the drop-down list on the top-left side.
3. Select **Alarm Input** or **Motion** as the event type, edit the Start time and End time.

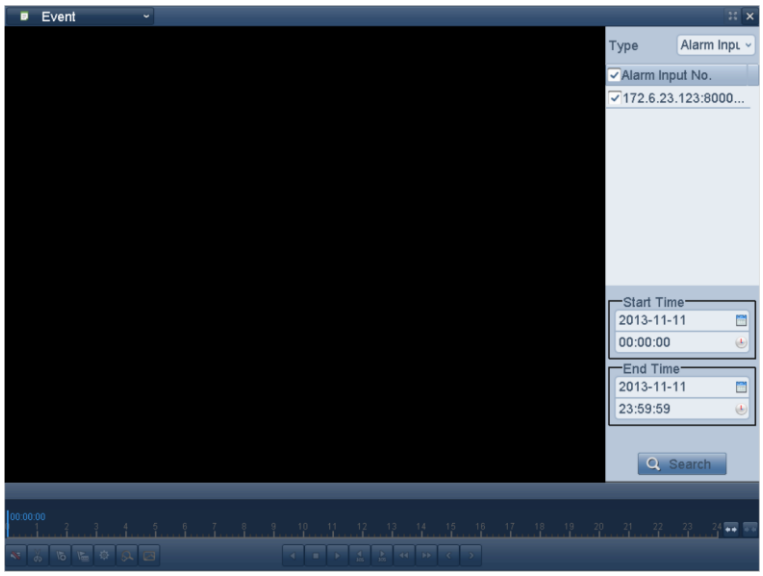


Figure 6. 7 Alarm Input Search Screen

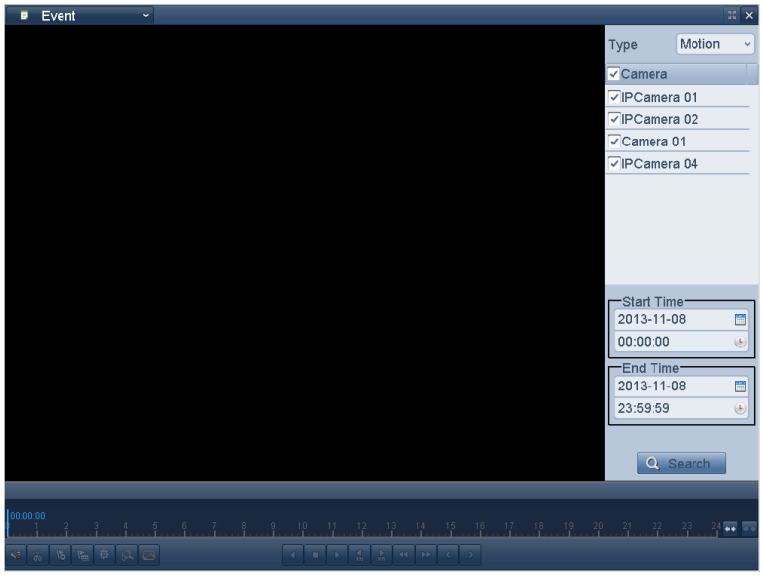


Figure 6. 8 Motion Search Screen

4. Click **Search** button to get the search results.

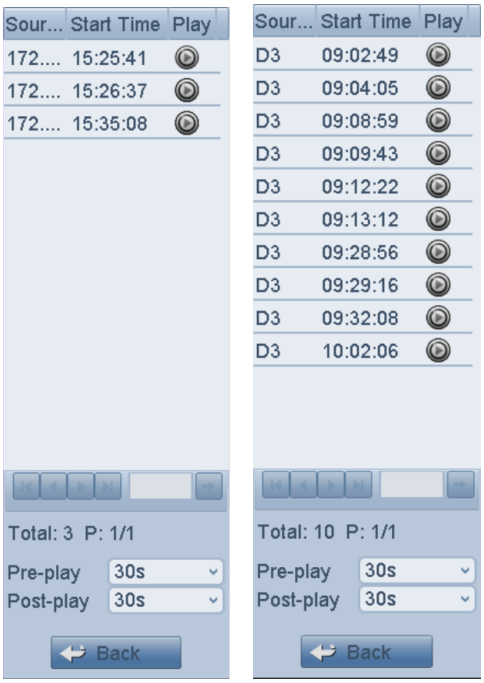


Figure 6. 9 Search Results Bar (Alarm In and Motion)

5. Click to play back the file.

NOTE

- Pre-play and post-play can be configured.
- If the event is set to trigger recording of multiple channels, clicking the will pop up the Synch Playback screen. You can select the channels to play back synchronously.

You can click the **Back** button to go back to the search results.

Figure 6. 10 Event Playback

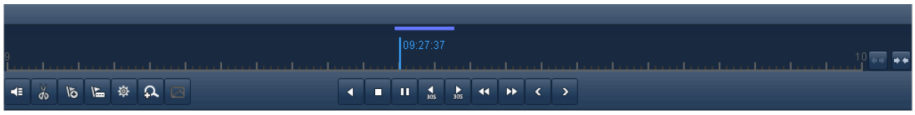


Figure 6. 11 Event Playback Toolbar

Table 6. 3 Detailed Explanation of Playback-by-event Toolbar

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Pause/Play reverse		Pause/Play
	Stop		30s reverse		30s forward		Slow forward
	Fast forward		Previous event		Next event		Scaling up/down time bar
	Process bar		Full Screen		Exit	Event	Event playback

6.1.4 Playing Back by Tag

Video tags allows going to playback of recordings that were previously tagged in playback.

To tag footage:

1. Enter Playback screen.

   Menu>Playback

Figure 6. 12 Playback by Time

Click button to add default tag.

Click button to add customized tag name.

NOTE

Max. 64 tags can be added to a single video file.

2. Tag management.

Click button to check, edit and delete tag(s).

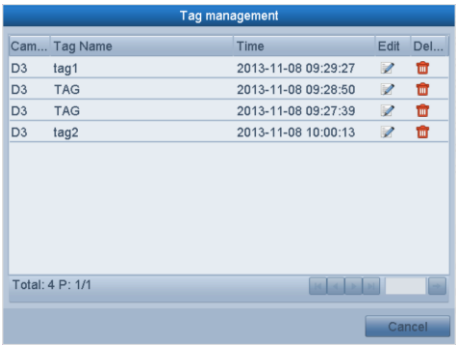


Figure 6. 13 Tag Management Screen

Playing back tags:

1. Select the **Tag** from the drop-down list in the Playback menu.
2. Select channels, edit start time and end time, and then click Search to enter Search Result screen.

NOTE

You can also enter a keyword in the textbox to search the tag on your command.

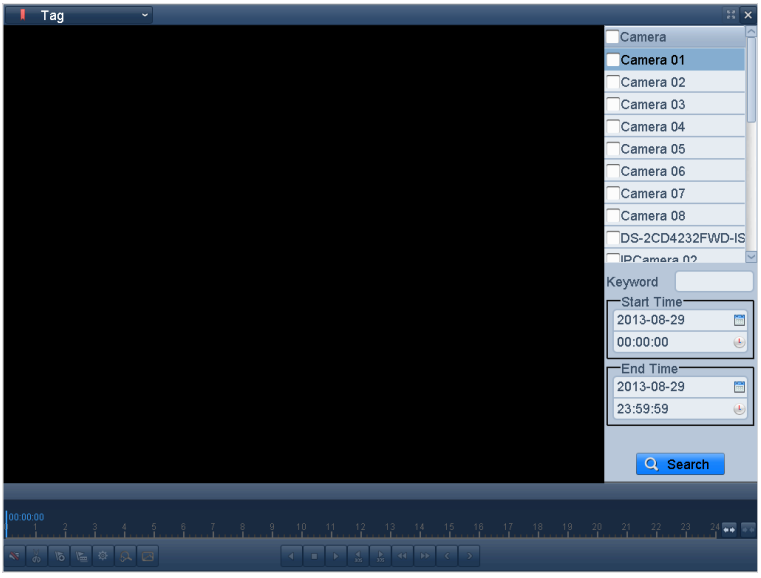


Figure 6. 14 Tag Video Search

3. Click button to play back the file.

You can click the **Back** button to go back to the search screen.

NOTE

Pre-play and post-play can be configured.

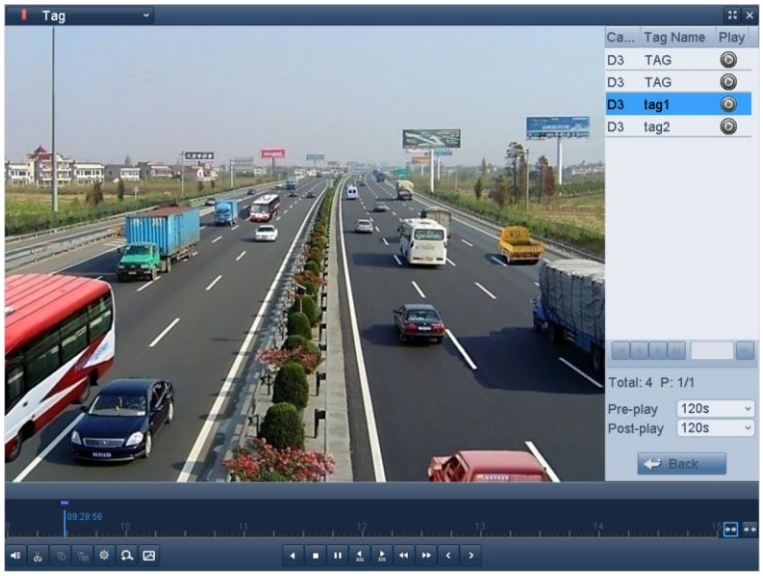


Figure 6. 15 Tag Playback

Figure 6. 16 Tag Playback Toolbar

Table 6. 4 Tag Playback Toolbar Icons

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause/Play reverse
	Pause/Play		Stop		30s reverse		30s forward
	Slow forward		Fast forward		Previous tag		Next tag
	Scaling up/down time bar		Process bar		Full Screen		Exit
Tag	Tag playback						

6.1.5 Playing Back by System Logs

Steps:

1. Enter Log Information screen.

   Menu>Maintenance>Log Information

2. Click **Log Search** tab to enter Playback by System Logs.

   Set search time and type and click **Search** button.

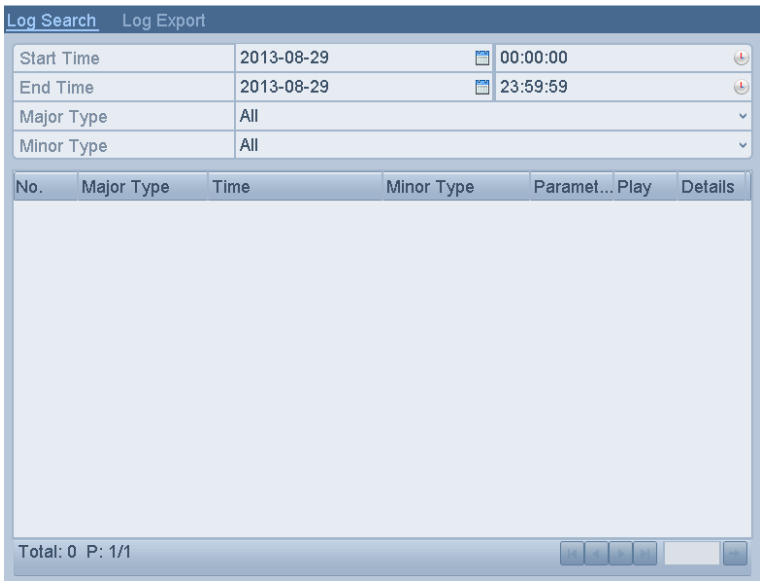


Figure 6. 17 System Log Search Screen

3. Select a log with recording icon to enter Playback.

Figure 6. 18 System Log Search Results

Figure 6. 19 Log Playback

6.1.6 Playing Back External File (Connected USB Drive)

Steps:

1. Enter Playback.

   Menu>Playback

2. Select **External File** in the drop-down list on the top-left side.

   The files are listed in the right-side.

   You can click the **Refresh** button to refresh the file list.

3. Select and click the button to play back the selected file.

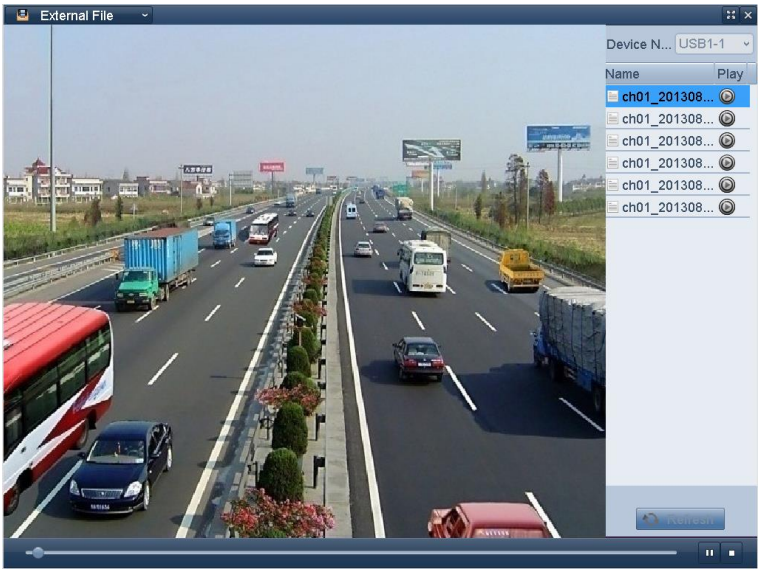


Figure 6. 20 External File Playback

6.2 Auxiliary Functions of Playback

6.2.1 Playing Back Frame by Frame

Steps:

Go to Playback.

In Playback, click to slow down the playback. Clicking again will reverse playback.

6.2.2 Smart Search

In order to find motion detection events fast in playback, Smart Search allows to analyze a certain area (scene) dynamically, and get all of the related motion detection events that occurred the schedule area.

Enable Dynamic Analysis for Motion must be set on the camera.

To do this:

1. Log in the network camera by the web browser, and enable the Dynamic Analysis for Motion by checking the checkboxt. You may enter the motion detection configuration screen by Configuration> Advanced Configuration> Events> Motion Detection.

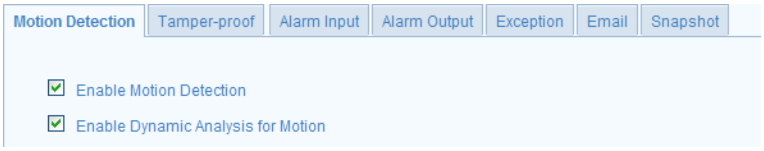


Figure 6. 21 Setting Dynamic Analysis

2. Enable the motion detection function and set the arming area to the full screen in the NVR. Please refer to *chapter 5.3* for details.

Steps:

1. Enter Playback and play a record file.

Figure 6. 22 Playback by Time

2. Click the on the playback control toolbar to enter Smart Search mode.
3. Click and drag the mouse to draw the area(s).

   You can click button to set the full screen as target searching area.

NOTE

Multi-area and full-screen searching modes are supported.

Figure 6. 23 Draw Area of Smart Search

4. Click to start the smart search, and the motion events occurred in the defined area will be marked on the time bar.

   The list of record files are displayed to the right of the playback screen.

Figure 6. 24 Smart Search Result

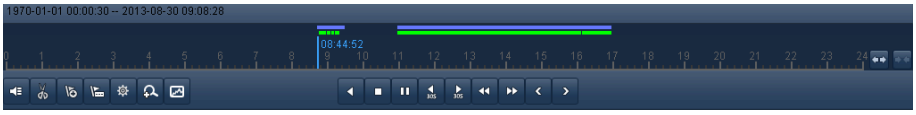


Figure 6. 25 Smart Search Playback Toolbar

NOTE

The 1970-01-01 00:00:30 -- 2013-08-30 09:08:28 indicates the start/end time of the record.

Table 6. 5 Smart Search Playback Toolbar Icons

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Mute/Audio on		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause/Play reverse
	Pause/Play		Stop		30s reverse		30s forward
	Slow forward		Fast forward		Previous result		Next result
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Normal playback						

6.2.3 Digital Zoom

Steps:

1. In playback click the button to enter Digital Zoom screen.
2. Use the mouse to draw a red rectangle and the image will be enlarged.

Figure 6. 26 Draw Area for Digital Zoom

3. Right-click the image to exit digital zoom.

6.2.4 Reverse Playback of Multi-channel

Steps:

1. Enter Playback screen.

   Menu>Playback
2. Select multiple channels and click a date on the calendar.

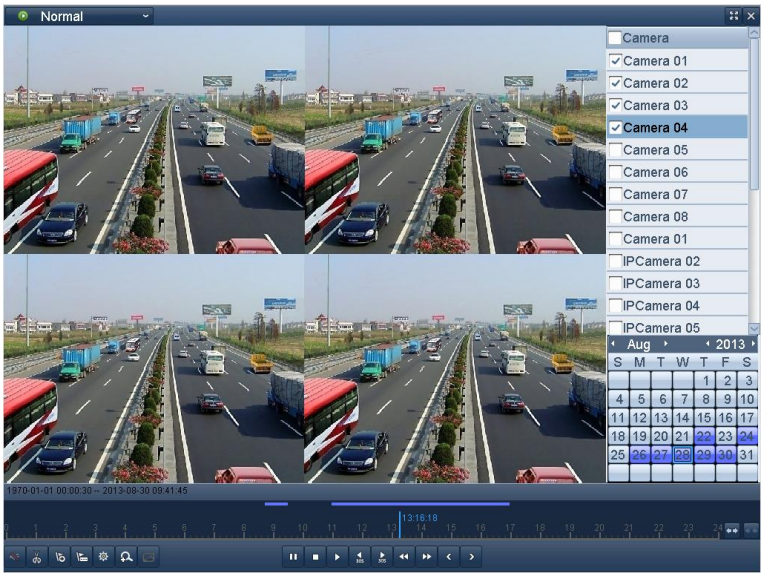


Figure 6. 27 4-ch Synchronous Playback Screen

3. Click to play back in reverse.

Chapter 7 Backup

7.1 Backing up Record Files

7.1.1 Backing up by Normal Video Search

Recorded files can be backup to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer).

Backup using USB flash drives and USB HDDs

Steps:

1. Enter Export.

   Menu>Export>Normal

2. Set search condition and click **Search** button to enter the search result screen.

Figure 7. 1 Normal Backup Video Search

3. Select record files you want to back up.

   Click to play the record file if you need to check it.

   Check the record files you want to back up.

NOTE

The size of the currently selected files is displayed in the lower-left corner of the window.

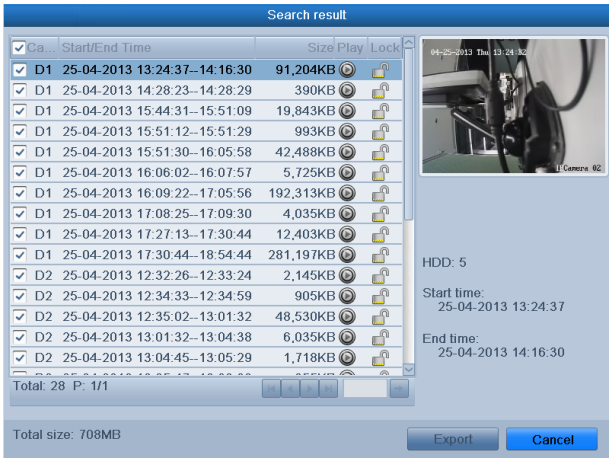


Figure 7. 2 Normal Backup Video Search Results

4. Click **Export** button to pop up the USB device management screen.

NOTE

If the inserted backup device is not recognized:

- Click the **Refresh** button.

- Reconnect device.

- **USB flash drives and USB HDDs**

  Click **New Folder** button if you want to create a new folder in the backup device.

  Select a record file or folder in the backup device and click button if you want to delete it.

  Select a record file in the backup device and click button to play it.

  Click **Format** button to format the backup device.

Figure 7. 3 Normal Video Search Export using an USB Flash Drive

- **USB writers and DVD-R/W**

  Click the **Erase** button if you want to erase the files from a re-writable CD/DVD.

NOTE

There must be a re-writable CD/DVD when you make this operation.

Figure 7. 4 Normal Video Search Export using an USB Writer

5. Select the backup device from the drop-down list, click the button **Export**. And then select to export the video and log files or the player to the backup device. Click **OK** to confirm.

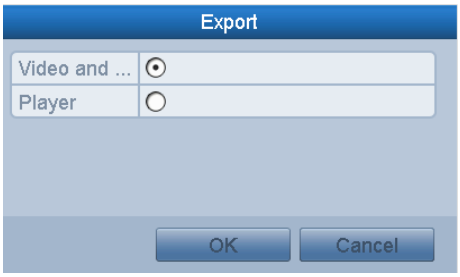


Figure 7. 5 Export Selection

Remain in the Exporting screen until all record files are exported with pop-up message box “Export finished”.

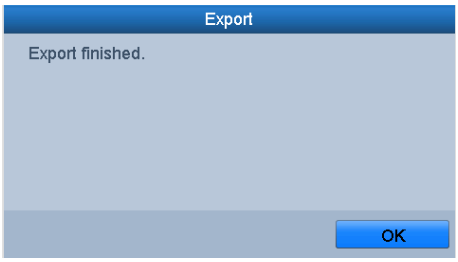


Figure 7. 6 Export Finished

6. Check backup result.

Select the record file in Export screen and click button to check it.

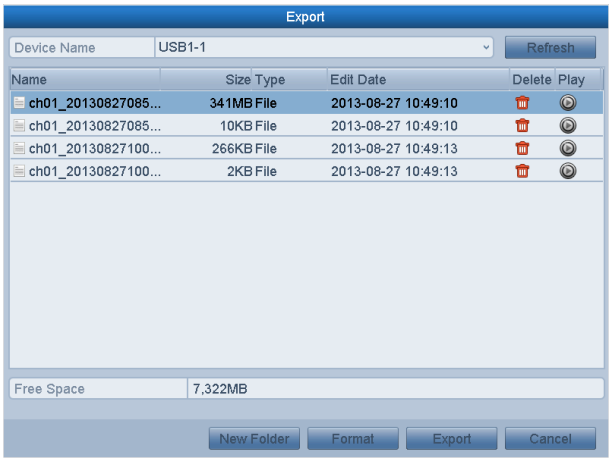


Figure 7. 7 Export Result Check using USB Flash Drive

7.1.2 Backing up by Event Search

Steps:

1. Enter Export screen.

Menu>Export>Event

1) Select “Alarm Input” from the dropdown list of Event Type.

NOTE

Event types can be Alarm Input or Motion, (alarm input as an example).

2) Select the alarm input No. and time.

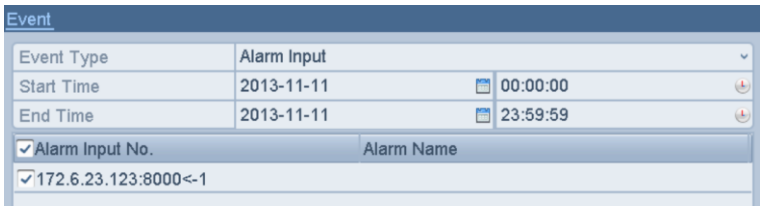


Figure 7. 8 Backup Event Search

2. Click **Search** button to enter the Search Result screen.

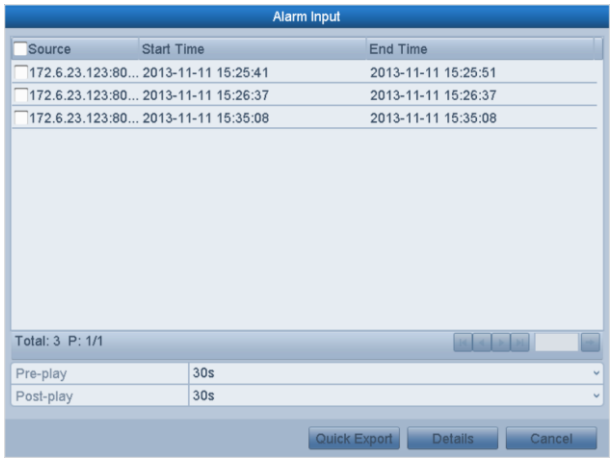


Figure 7. 9 Event Search Results

3. Select record files to export.

- The **Quick Export** button will export record files of all channels triggered by the selected alarm input.
- Clicking **Details** button will take you to the screen with detailed information of all the channels triggered by the selected alarm input.

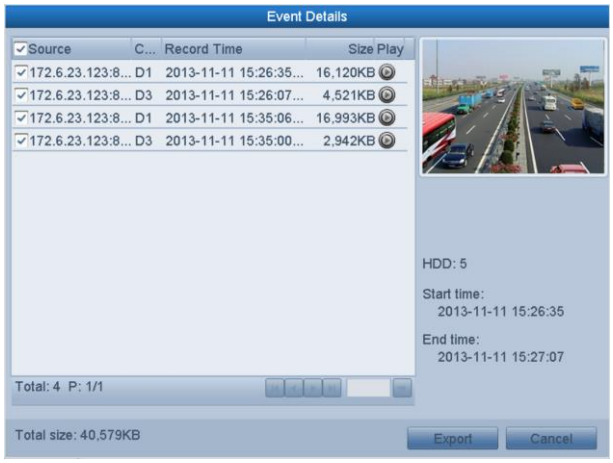


Figure 7. 10 Event Details Screen

4. Click the **Export** button to enter the backup device management screen.

NOTE

If the inserted USB device is not recognized:

- Click the Refresh button.
- Reconnect device.
- Check for compatibility from vendor.

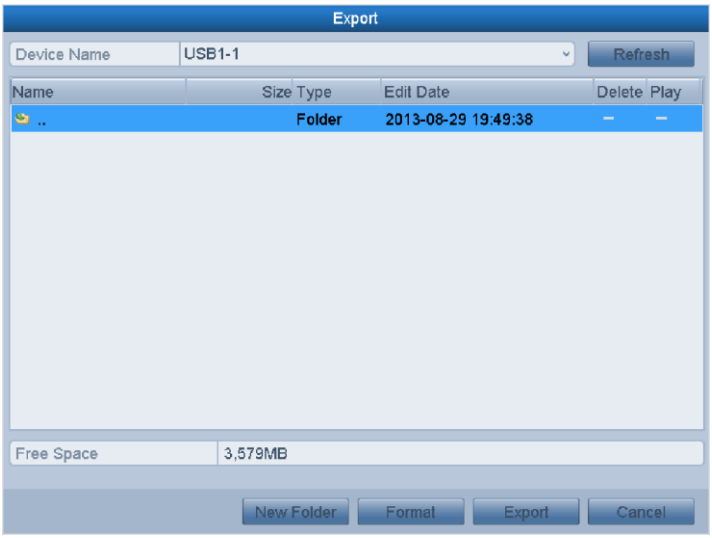


Figure 7. 11 Event Export Using USB Flash Drive

5. Select the backup device from the drop-down list, click the button **Export**. And then select to export the video and log files or the player to the backup device. Click **OK** to confirm.

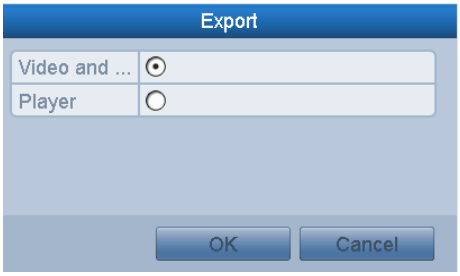


Figure 1. 1 Export Selection

Stay in the Exporting screen until all record files are exported with pop-up message box “Export finished”.

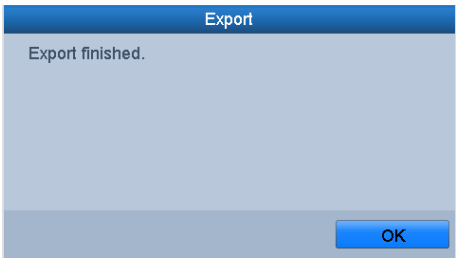


Figure 7. 12 Export Finished

6. Check backup result.

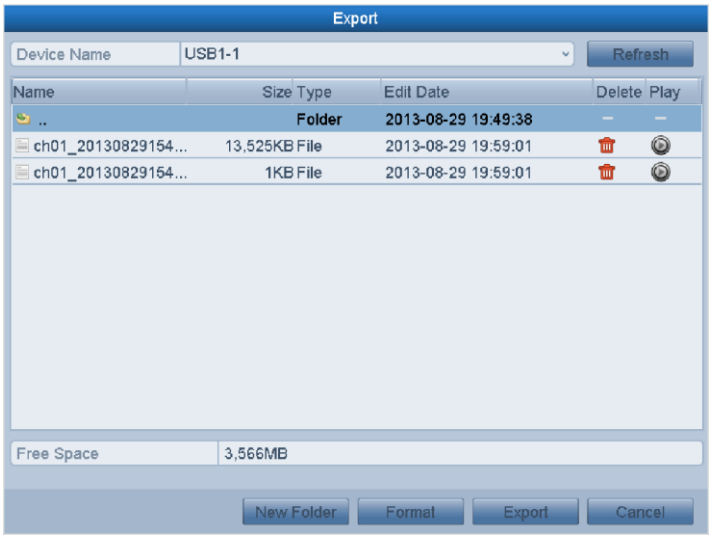


Figure 7. 13 Event Export Check Result Using USB Flash Drive

7.1.3 Backing up Video Clips

Steps:

1. Enter Playback screen.

   Please refer to *Chapter 6.1 Playing Back Record Files*.

Figure 7. 14 Playback by Time

2. During playback, use buttons and in the playback toolbar to start or stop clipping record file(s).
3. Quit Playback screen after finishing clipping and you will then be prompted to save the clips.

   NOTE

   A maximum of 30 clips can be selected for each channel.
4. Click **Yes** to save video clips.

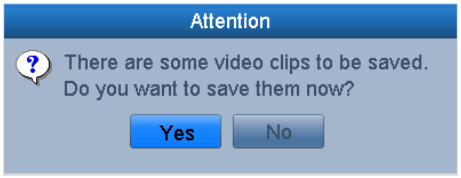


Figure 7. 15 Attention to Video Clip Saving

5. Click the **Export** button to enter the backup device management screen.

NOTE

If the inserted USB device is not recognized:

- Click the **Refresh** button.
- Reconnect device.

Figure 7. 16 Export Video Clips Using USB Flash Drive

6. Select the backup device from the drop-down list, click **Export**. And then select export the video and log files or the player to the backup device. Click **OK** to confirm.

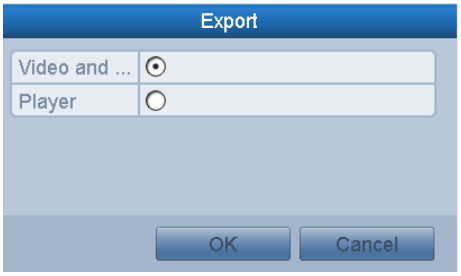


Figure 7. 17 Export Selection

Stay in the Exporting screen until all record files are exported with pop-up message box “Export finished”.

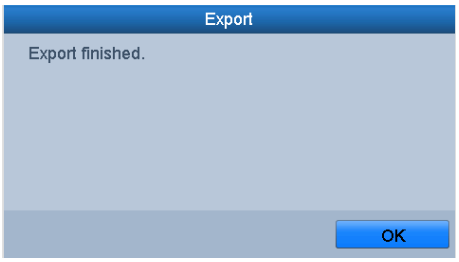


Figure 7. 18 Export Finished

7. Check backup result.

Figure 7. 19 Video Clips Export Result Check Using USB Flash Drive

7.2 Managing Backup Devices

Steps:

1. Enter Search Result screen of record files.

   Menu>Export>Normal

   Set search condition and click **Search** button to enter Search Result screen.

   NOTE

   At least one channel shall be selected.

Figure 7. 20 Backup Normal Video Search

2. Select record files you want to back up.

   Click **Export** button to enter Export screen.

Select a file.

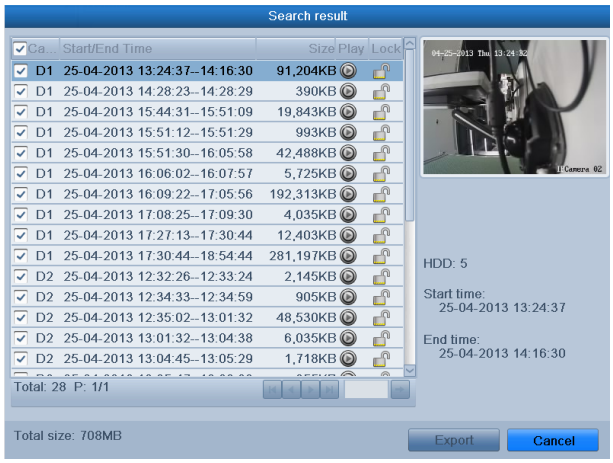


Figure 7. 21 Backup Normal Video Search Results

3. Backup device management.

If the inserted backup device is not recognized:

- Click the **Refresh** button.
- Reconnect device.

- **USB flash drives and USB HDDs**

  Click **New Folder** button if you want to create a new folder in the backup device.

  Select a record file or folder in the backup device and click button if you want to delete it.

  Select a record file in the backup device and click button to play it.

  Click **Format** button to format the backup device.

Figure 7. 22 USB Flash Drive Management

Chapter 8 Alarm Settings

8.1 Setting Motion Detection Alarm

Steps:

1. Enter Motion Detection screen.

   Menu> Camera> Motion

Figure 8. 1 Motion Detection Setup Screen

2. Set up the detection area and sensitivity.

   Check "Enable Motion Detection", use the mouse to draw detection area(s) and drag the sensitivity bar to set the sensitivity.

   Click button and set alarm response actions.

3. Click **Trigger Channel** tab and select one or more channels which will start to record or become full-screen when motion alarm is triggered, click **Apply** to save the settings.

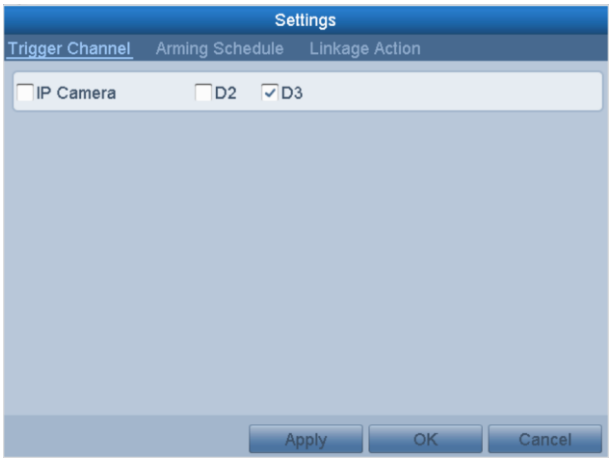


Figure 8. 2 Set Trigger Camera for Motion Detection

4. Set up arming schedule.

   1) Select Arming Schedule tab to set the arming schedule and handling actions for the motion detection.
   2) Select a day of a week (up to eight time periods can be set within each day).
   3) Click **Apply** to save the settings

NOTE

Time periods shall not be repeated or overlapped.

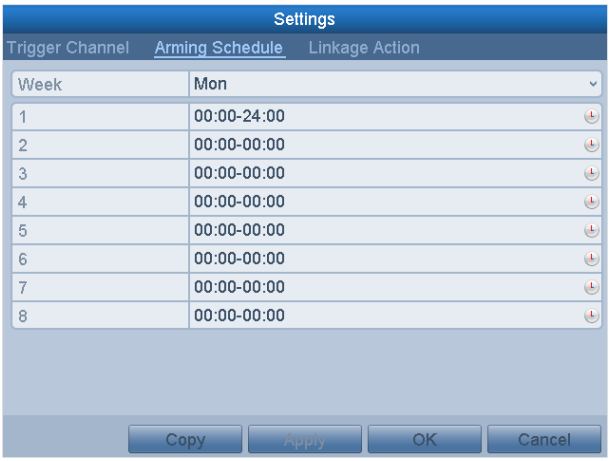


Figure 8. 3 Set Arming Schedule for Motion Detection

5. Click the **Linkage Action** tab to set up alarm response actions of motion alarm (please refer to *Chapter Setting Alarm Response Actions*).

   Repeat the above steps to set up arming schedule of other days of the week. You can also use **Copy** button to copy an arming schedule to other days.
6. Click the **OK** button to complete the motion detection settings of the channel.

8.2 Setting Sensor Alarms

Steps:

1. Enter Alarm Settings in System Configuration and select an alarm input.

   Menu> Configuration> Alarm

   Select Alarm Input tab to enter Alarm Input Settings screen.

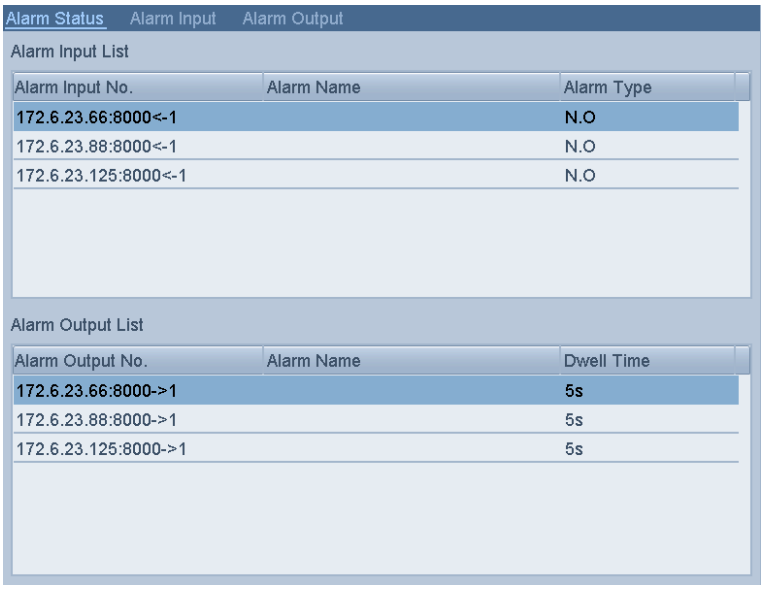


Figure 8. 4 System Configuration Alarm Status Screen

2. Set up the handling action of the selected alarm input.

   Check the **Enable** checkbox and click button to set up its alarm response actions.

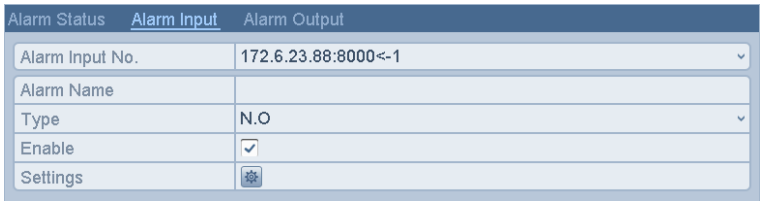


Figure 8. 5 Alarm Input Setup Screen

3. Select Trigger Channel tab and select one or more channels which will start to record or become full-screen when an external alarm is input.
4. Select **Arming Schedule** tab to set the channel's arming schedule.

   Choose one day of a week and Max. eight time periods can be set within each day.

   Time periods shall not be repeated or overlapped.
5. Select **Linkage Action** tab to set up an alarm response actions of the alarm input (please refer to *Chapter Setting Alarm Response Actions*).

   Repeat the above steps to set up arming schedule of other days of the week. You can also use **Copy** button to copy an arming schedule to other days.

Figure 8. 6 Alarm Input Set Arming Schedule

8.3 Detecting Video Loss Alarm

Steps:

1. Enter Video Loss page in Camera Management and select a channel you want to detect.

   Menu> Camera> Video Loss

Figure 8. 7 Video Loss Setup Screen

2. Set up handling method for video loss.

   Check the checkbox of "Enable Video Loss Alarm", and click button to set up handling action of video loss.

3. Set up arming schedule of the channel.

   1) Select Arming Schedule tab to set the channel's arming schedule.

   2) Select one day of the week (up to eight time periods can be set within each day).

   3) Click **Apply** button to save the settings.

NOTE

Time periods shall not be repeated or overlapped.

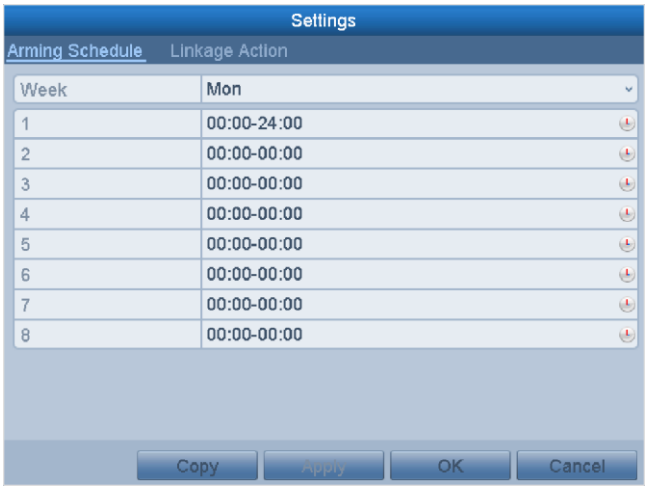


Figure 8. 8 Set Arming Schedule for Video Loss

4. Select **Linkage Action** tab to set up alarm response action of video loss (please refer to *Chapter Setting Alarm Response Actions*).

Repeat the above steps to set up arming schedule of other days of the week. You can also use the **Copy** button to copy an arming schedule to other days.

5. Click the **OK** button to complete the video loss settings of the channel.

8.4 Detecting Video Tampering Alarm

Steps:

1. Enter Video Tampering page in Camera Management and select a channel you want to detect video tampering.

   Menu> Camera> Video Tampering

Figure 8. 9 Video Tampering Setup Screen

2. Check “Enable Video Tampering”.

   Drag the sensitivity bar and select a proper sensitivity level. Use the mouse to draw an area you want to detect video tampering.

   Click button to set up handling method of video tampering.

Figure 8. 10 Set Detection Area and Sensitivity for Video Tampering

3. Set arming schedule and alarm response actions of the channel.
   1) Click Arming Schedule tab to set the channel’s arming schedule.
   2) Select one day of the week (max. eight time periods can be set within each day).
   3) Click **Apply** button to save the settings.

Time periods shall not be repeated or overlapped.

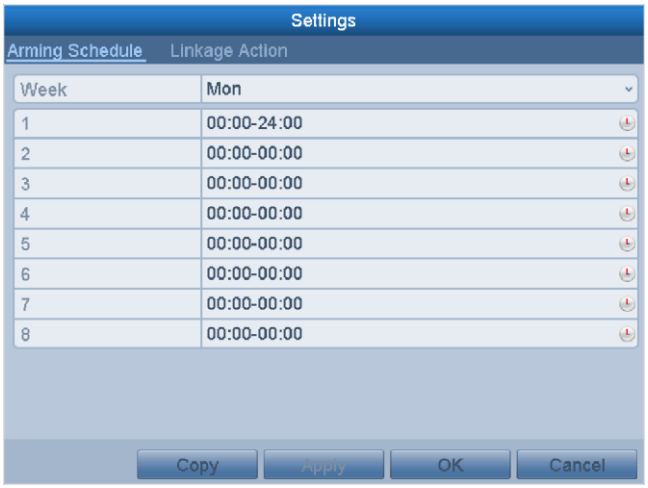


Figure 8. 11 Set Arming Schedule for Video Tampering

4. Select **Linkage Action** tab to set up alarm response actions for video tampering alarm (please refer to *Chapter Setting Alarm Response Actions*).

   Repeat the above steps to set up arming schedule of other days of the week. You can also use **Copy** button to copy an arming schedule to other days.
5. Click the **OK** button to complete the video tampering settings of the channel.

8.5 Handling Exceptions Alarm

Exception refers to:

- **HDD Full:** The HDD is full.
- **HDD Error:** Writing HDD error or unformatted HDD.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflicted:** Duplicated IP address.
- **Illegal Login:** Incorrect user ID or password.
- **Record Exception:** No space for saving recorded files.

Enter Exception page in System Configuration.

Menu> Configuration> Exceptions

Please refer to *Chapter Setting Alarm Response Actions* for detailed alarm response actions.

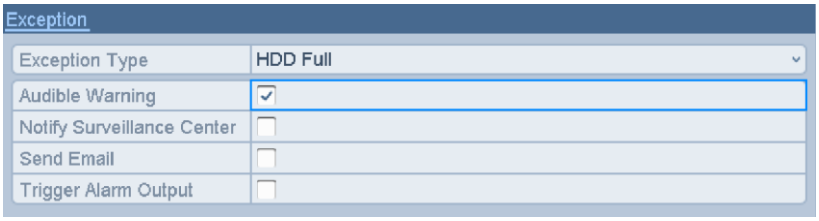


Figure 8. 12 Exceptions Setup Screen

8.6 Setting Alarm Response Actions

Alarm response actions will activate when an alarm or exception occurs, these include Full Screen Monitoring, Audible Warning (buzzer), Notify Surveillance Center, Trigger Alarm Output and Send Email.

Full Screen Monitoring

When an alarm is triggered, the local monitor (VGA or HDMI monitor) display the alarm camera in full screen.

If alarms are triggered simultaneously, their full-screen images will be switched at an interval of 10 seconds (default dwell time). Dwell time can be set in Menu >Configuration>Live View, and set the value of Full Screen Monitoring Dwell Time.

Auto-switch will stop once the alarm stops.

Audible Warning

Trigger an audible *beep* when an alarm is detected.

Notify Surveillance Center

Sends an alarm signal to remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.

Email Linkage

Sends an email with alarm information to a user or users when an alarm is detected.

Please refer to *Chapter9.2.10 Configuring Email* for details of Email configuration.

Trigger Alarm Output

Trigger an alarm output when an alarm is triggered.

1. Enter Alarm Output screen.

   Menu> Configuration> Alarm> Alarm Output

   Select an alarm output, alarm name and dwell time. Click **Schedule** button to set the arming schedule of the alarm output.

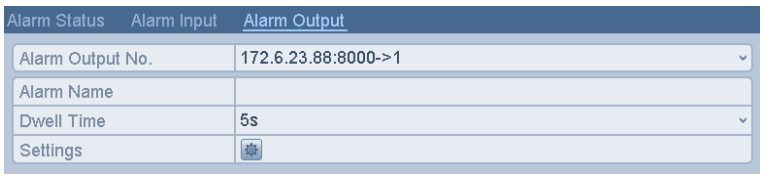


Figure 8. 13 Alarm Output Setup Screen

2. Set up an arming schedule of the alarm output.

   Select one day of a week and up to 8 time periods can be set within each day.

   NOTE

   Time periods shall not be repeated or overlapped.

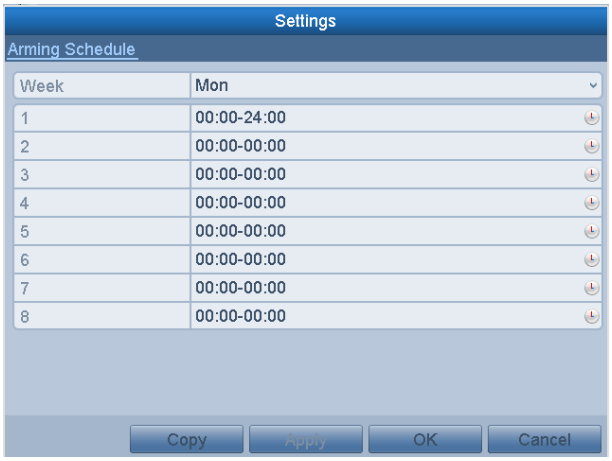


Figure 8. 14 Set Arming Schedule for Alarm Output

3. Repeat the above steps to set up arming schedule of other days of the week. You can also use the **Copy** button to copy an arming schedule to other days.

   Click the **OK** button to complete the video tampering settings of the alarm output No.

4. You can also copy the settings to other channels.

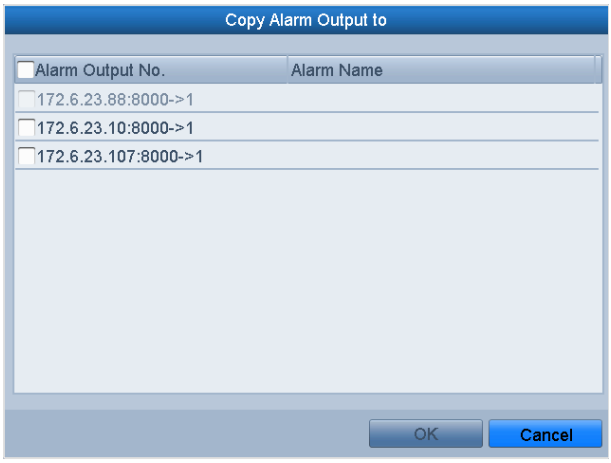


Figure 8. 15 Copy Settings for Alarm Output

8.7 Triggering or Clearing Alarm Output Manually

Steps:

Select the alarm output you want to trigger or clear and make related operations.

Menu> Manual> Alarm

Click **Trigger/Clear** button if you want to trigger or clear an alarm output.

Click **Trigger All** button if you want to trigger all alarm outputs.

Click **Clear All** button if you want to clear all alarm output.

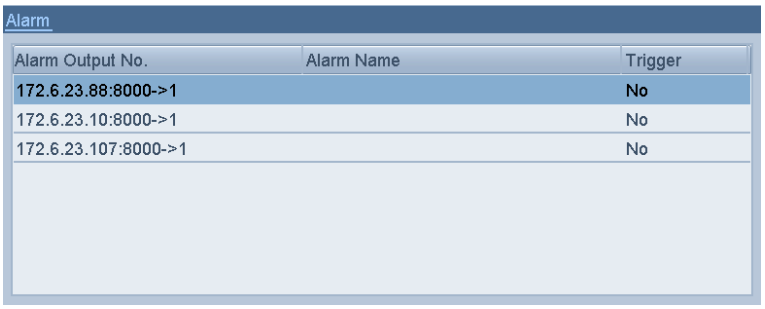


Figure 8. 16 Clear or Trigger Alarm Output Manually

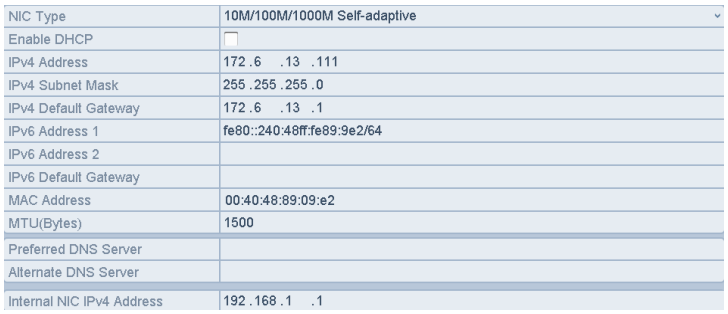
Chapter 9 Network Settings

9.1 Configuring General Settings

Network settings must be configured before you operate NVR over network.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration>Network
2. Select the **General** tab.



H20NVR4, H20NVR8, H20NVR16

Figure 9. 1 Network Settings Screen

3. In the **General Settings** screen, you can configure the following settings: NIC Type, IPv4 Address, IPv4 Gateway, MTU and DNS Server.
   If the DHCP server is available, you can click the checkbox of **DHCP** to automatically obtain an IP address and other network settings from that server.

   - You need to configure the internal NIC address, so that IP addresses are assigned to the cameras connected to the PoE or built-in switch screens.
   - The valid value range of MTU is 500 ~ 9676.

4. After having configured the general settings, click **Apply** to save the settings.

9.2 Configuring Advanced Settings

9.2.1 Configuring PPPoE Settings

Your NVR also allows access by Point-to-Point Protocol over Ethernet (PPPoE).

Steps:

1. Enter the **Network Settings** screen.
   Menu >Configuration> Network
2. Select the **PPPoE** tab to enter the PPPoE Settings screen, as shown in Figure 9. 2.

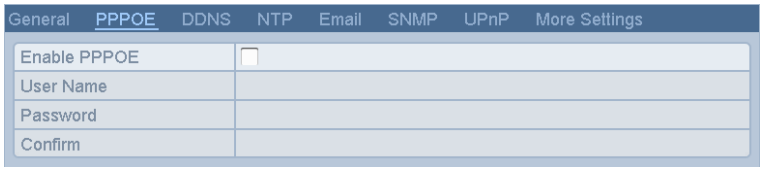


Figure 9. 2 PPPoE Settings Screen

3. Check the **PPPoE** checkbox to enable this feature.
4. Enter **User Name**, **Password**, and **Confirm Password** for PPPoE access.

   The User Name and Password should be assigned by your ISP.
5. Click **Apply** to save and exit the screen.
6. After successful settings, the system asks you to reboot the device to enable the new settings, and the PPPoE dial-up is automatically connected after reboot.
   You can go to Menu > Maintenance> System Info > Network screen to view the status of PPPoE connection. Please refer to *Chapter Viewing System Information* for PPPoE status.

9.2.2 Configuring DDNS

If your NVR is set to use PPPoE as its default network connection, you may set Dynamic DNS (DDNS) to be used for network access.

Prior registration with your ISP is required before configuring the system to use DDNS.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **DDNS** tab to enter the DDNS Settings screen, as shown in Figure 9. 3.

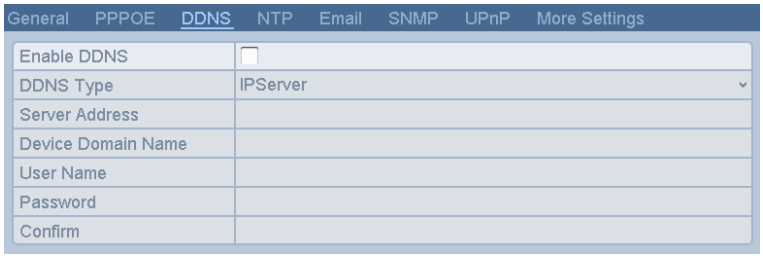


Figure 9. 3 DDNS Settings Screen

3. Check the **DDNS** checkbox to enable this feature.
4. Select **DDNS Type**. Five different DDNS types are selectable: IPServer, DynDNS, PeanutHull, NO-IP and HiDDNS.

- **IPServer:** Enter **Server Address** for IPServer.

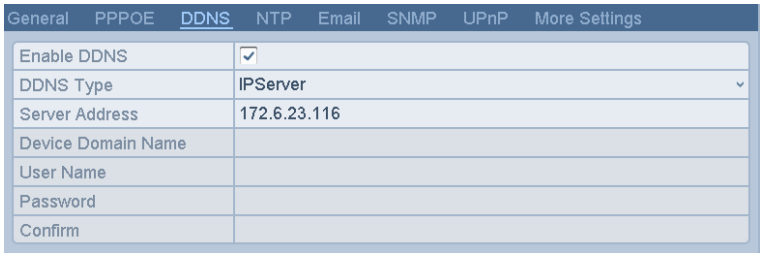


Figure 9. 4 IPServer Settings Screen

- **DynDNS:**
  1) Enter **Server Address** for DynDNS (i.e. members.dyndns.org).
  2) In the NVR Domain Name text field, enter the domain obtained from the DynDNS website.
  3) Enter the **User Name** and **Password** registered in the DynDNS website.

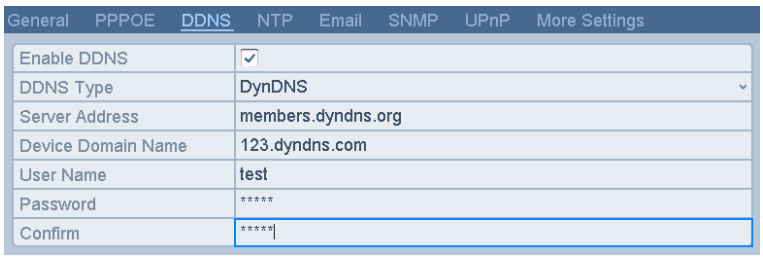


Figure 9. 5 DynDNS Settings Screen

- **PeanutHull:** Enter the **User Name** and **Password** obtained from the PeanutHull website.

Figure 9. 6 PeanutHull Settings Screen

- **NO-IP:**

  Enter the account information in the corresponding fields. Refer to the DynDNS settings.
  1) Enter **Server Address** for NO-IP.

2) In the NVR Domain Name text field, enter the domain obtained from the NO-IP website (www.no-ip.com).
3) Enter the **User Name** and **Password** registered in the NO-IP website.

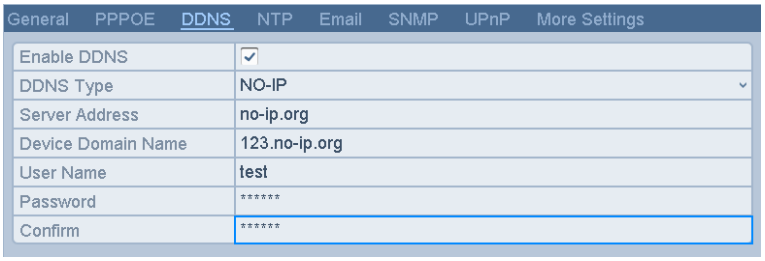


Figure 9. 7 NO-IP Settings Screen

- **HiDDNS:**

  Enter the **Server Address** and **Device Domain Name** for HiDDNS.

  1) Enter the **Server Address** of the HiDDNS server, which is www.hiddns.com by default.
  2) Enter the **Device Domain Name.** You can use the alias you registered in the HiDDNS server or define a new device domain name. If a new alias of the device domain name is defined in the NVR, it will replace the old one registered on the server. You can register the alias of the device domain name in the HiDDNS server first and then enter the alias to the **Device Domain Name** in the NVR; you can also enter the domain name directly on the NVR to create a new one.

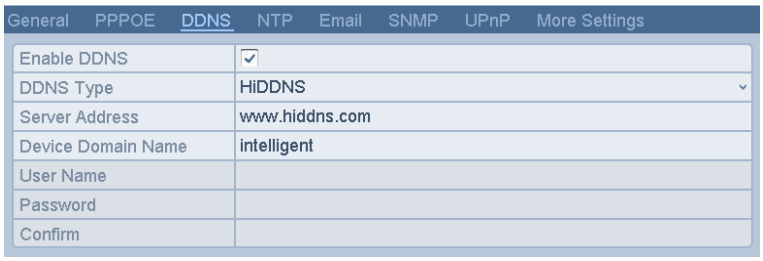


Figure 9. 8 HiDDNS Settings Screen

Register the device on the HiDDNS server.

1) Go to the HiDDNS website: www.hiddns.com.
2) Click Register new user to register an account if you do not have one and use the account to log in.

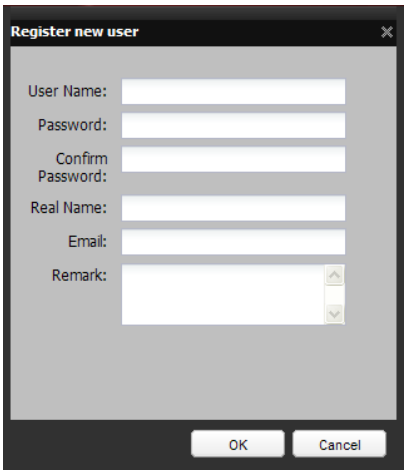


Figure 9. 9 Register an Account

3) In the Device Management screen, click Add to register the device.

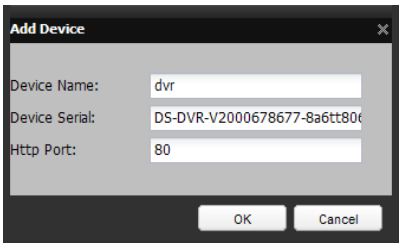


Figure 9. 10 Register the Device

NOTE

The device name can only contain the lower-case English letter, numeric and '-'; and it must start with the lower-case English letter and cannot end with '-'.

Access the Device via Web Browser or Client Software

After having successfully registered the device on the HiDDNS server, you can access your device via web browser or Client Software with the **Device Domain Name** (**Device Name**).

- **Task 1: Access the Device via Web Browser**

Open a web browser, and enter *http://www.hiddns.com/alias* in the address bar. Alias refers to the **Device Domain Name** on the device or the **Device Name** on the HiDDNS server**.**

Example: *http://www.hiddns.com/nvr*

NOTE

If you mapped the HTTP port on your router and changed it to port No. except 80, you have to enter *http://www.hiddns.com/alias:HTTP port* in the address bar to access the device. You can refer to *Chapter 9.2.10* for the mapped HTTP port No.

- **Task 2: Access the devices via SmartWatch® System Manager (SMM)**

In the Add Device window, select **HiDDNS** and then edit the device information.

Nickname: Edit a name for the device as you want.

Server Address: www.hiddns.com

Device Domain Name: It refers to the **Device Domain Name** on the device or the **Device Name** on

the HiDDNS server you created**.**

User Name: Enter the user name of the device. By default it is admin.

Password: Enter the password of the device. By default it is 12345.

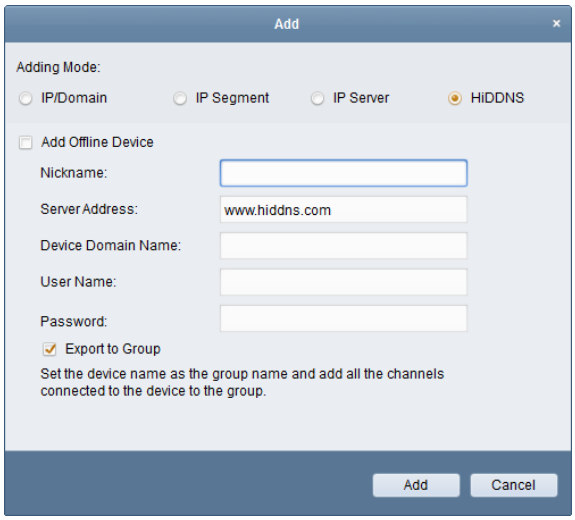


Figure 9. 11 Access Device via SMM

5. Click **Apply** button to save and exit the screen.

9.2.3 Configuring NTP Server

A Network Time Protocol (NTP) Server can be configured on your NVR to ensure the accuracy of system date/time.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **NTP** tab to enter the NTP Settings screen, as shown in Figure 9. 12.

Figure 9. 12 NTP Settings Screen

3. Check the **Enable NTP** checkbox to enable this feature.
4. Configure the following NTP settings:
   - **Interval:** Time interval between the two synchronizing actions with NTP server. The unit is minute.
   - **NTP Server:** IP address of NTP server.
   - **NTP Port:** Port of NTP server.
5. Click **Apply** button to save and exit the screen.

NOTE

The time synchronization interval can be set from1 to 10080min, and the default value is 60min. If the NVR is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the NVR is setup

in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

9.2.4 Configuring SNMP

You can use SNMP protocol to get device status and parameters related information.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **SNMP** tab to enter the SNMP Settings screen, as shown in Figure 9. 13.

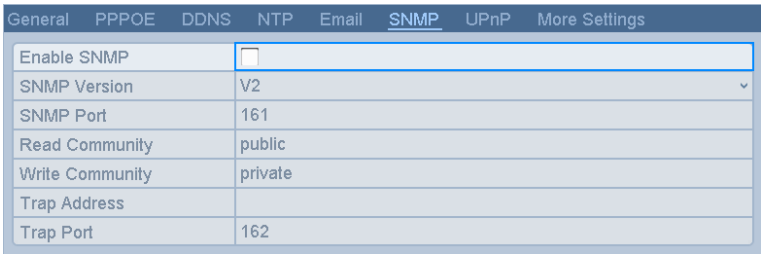


Figure 9. 13 SNMP Settings Screen

3. Check the **SNMP** checkbox to enable this feature.
4. Configure the following SNMP settings:
   - **Trap Address:** IP Address of SNMP host.
   - **Trap Port:** Port of SNMP host.
5. Click **Apply** button to save and exit the screen.

NOTE

Before setting the SNMP, please download the SNMP software and manage to receive the device information via SNMP port. By setting the Trap Address, the NVR is allowed to send the alarm event and exception message to the surveillance center.

9.2.5 Configuring Remote Alarm Host

With a remote alarm host configured, the NVR will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings screen, as shown in Figure 9. 14.

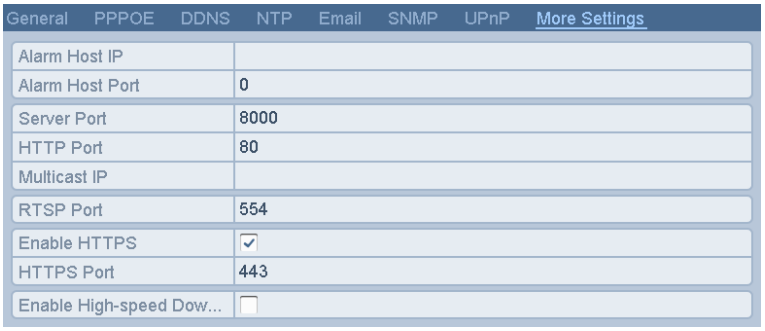


Figure 9. 14 More Settings Screen

3. Enter **Alarm Host IP** and **Alarm Host Port** in the text fields.
   The **Alarm Host IP** refers to the IP address of the remote PC on which the Network Video Surveillance Software (e.g., SMM) is installed, and the **Alarm Host Port** must be the same as the alarm monitoring port configured in the software.

Figure 9. 15 Configure Alarm Host

4. Click **Apply** button to save and exit the screen.

9.2.6 Configuring Multicast

The multicast can be configured to live view more than 64 cameras through a network.

A multicast address spans the Class-D IP range of 224.0.0.0 to239.255.255.255. It is recommended to use the IP address ranging from 239.252.0.0 to 239.255.255.255.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings screen, as shown in Figure 9. 14.
3. Set **Multicast IP**, as shown in Figure 9. 16. When adding a device to the Network Video Surveillance Software, the multicast address must be the same as the NVR's multicast IP.

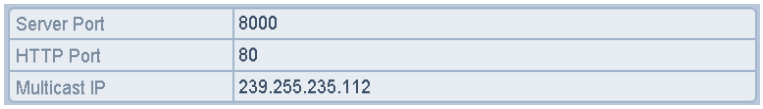


Figure 9. 16 Configure Multicast

4. Click **Apply** button to save and exit the screen.

NOTE

The multicast function should be supported by the network switch to which the NVR is connected.

9.2.7 Configuring RTSP

The RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers.

Steps:

1. Enter the Network Settings menu
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings menu, as shown in Figure 9. 14.
3. Enter the RTSP port in the text field of **RTSP Service Port**. The default RTSP port is 554, and you can change it according to different requirements.

Figure 9. 17 RTSP Settings Screen

4. Click **Apply** button to save and exit the menu.

9.2.8 Configuring Server and HTTP Ports

You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings screen, as shown in Figure 9. 14.
3. Enter new **Server Port** and **HTTP Port**.

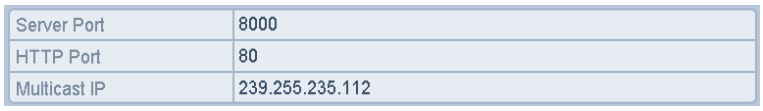


Figure 9. 18 Host/Others Settings Menu

4. Enter the Server Port and HTTP Port in the text fields. The default Server Port is 8000 and the HTTP Port is 80, and you can change them according to different requirements.
5. Click **Apply** button to save and exit the screen.

The Server Port should be set to the range of 2000-65535 and it is used for remote client software access. The HTTP port is used for remote web browser access.

9.2.9 Configuring HTTPS Port

HTTPS provides authentication of the web site and associated web server that one is communicating with, which protects against Man-in-the-middle attacks. Perform the following steps to set the port number of https.

Example:

If you set the port number as 443 and the IP address is 192.0.0.64, you may access the device by inputting *https://192.0.0.64:443* via the web browser.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings screen, as shown in Figure 9. 14.
3. Check the checkbox of **Enable HTTPS**.

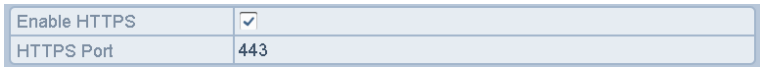


Figure 9. 19 HTTPS Settings Menu

4. Enter the **HTTPS Port**.
5. Click the **Apply** button to save and exit the screen.

9.2.10 Configuring Email

The system can be configured to send Email notification to all designated users if an alarm event is detected, etc., an alarm or motion event is detected or the administrator password is changed.

Before configuring the Email settings, the NVR must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu.
3. Click **Apply** button to save the settings.
4. Select the **Email** tab to enter the Email Settings screen.

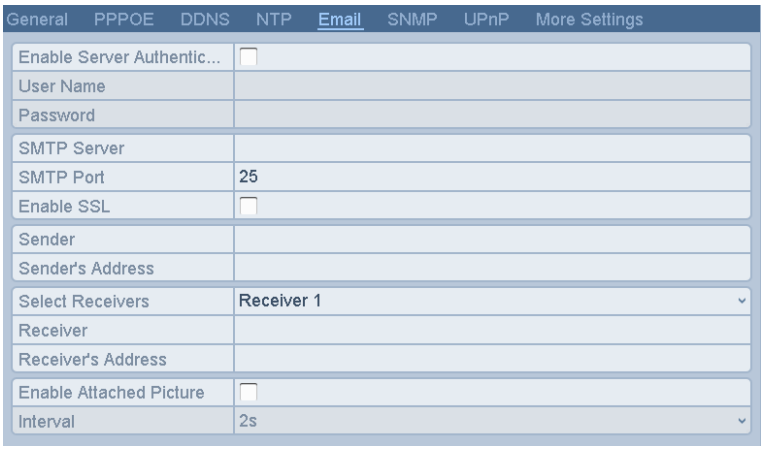


Figure 9. 20 Email Settings Screen

5. Configure the following Email settings:
   Enable Server Authentication (optional): Check the checkbox to enable the server authentication feature.

User Name: The user account of sender's Email for SMTP server authentication.

Password: The password of sender's Email for SMTP server authentication.

SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).

SMTP Port No.: The SMTP port. The default TCP/IP port used for SMTP is 25.

Enable SSL (optional): Click the checkbox to enable SSL if required by the SMTP server.

Sender: The name of sender.

Sender's Address: The Email address of sender.

Select Receivers: Select the receiver. Up to 3 receivers can be configured.

Receiver: The name of user to be notified.

Receiver's Address: The Email address of user to be notified.

Enable Attached Pictures: Check the checkbox of **Enable Attached Picture** if you want to send email with attached alarm images. The interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL here.

Interval: The interval refers to the time between two actions of sending attached pictures.

E-mail Test: Sends a test message to verify that the SMTP server can be reached.

6. Click **Apply** button to save the Email settings.
7. You can click **Test** button to test whether your Email settings work. The corresponding Attention message box will pop up.

9.2.11 Configuring UPnP™

Universal Plug and Play (UPnP™) can permit the device seamlessly discover the presence of other network devices on the network and establish functional network services for data sharing, communications, etc. You can use the UPnP™ function to enable the fast connection of the device to the WAN via a router without port mapping.

Before you start:

If you want to enable the UPnP™ function of the device, you must enable the UPnP™ function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

Steps:

1. Enter the Network Settings screen.
   Menu > Configuration > Network
2. Select the **UPnP** tab to enter the UPnP™ screen.

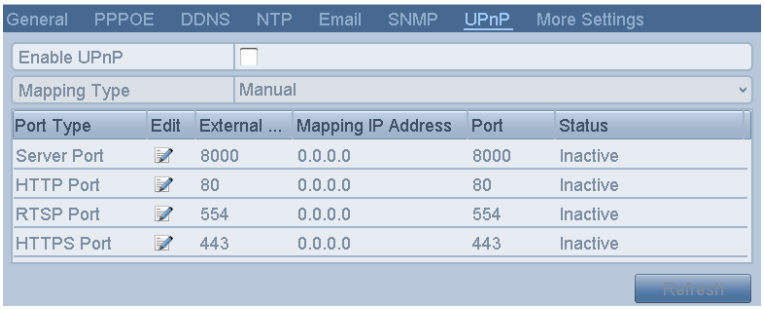


Figure 9. 21 UPnP™ Settings Screen

3. Check checkbox to enable UPnP™.

4. Select the Mapping Type as Manual or Auto in the drop-down list.

Option 1: Auto

If you select Auto, the Port Mapping items are read-only, and the external ports are set by the router automatically.

1) Click **Apply** button to save the settings.
2) You can click **Refresh** button to get the latest status of the port mapping.

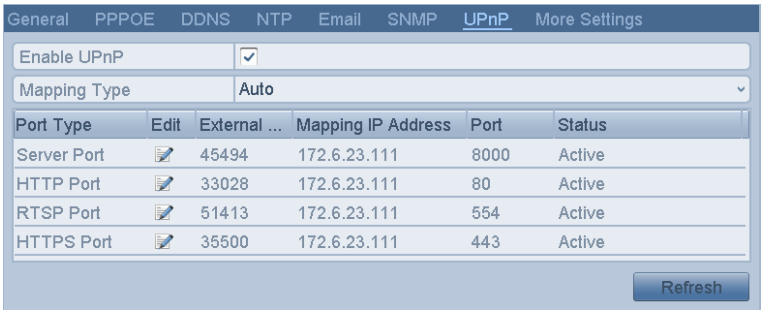


Figure 9. 22 UPnP™ Settings Finished-Auto

Option 2: Manual

If you select Manual as the mapping type, you can edit the external port on your demand by clicking to activate the External Port Settings dialog box.

1) Click to activate the External Port Settings dialog box. Configure the external port No. for server port, http port, RTSP port and https port respectively.

NOTE

- You can use the default port No., or change it according to actual requirements.
- External Port indicates the port No. for port mapping in the router.
- The value of the RTSP port No. should be 554 or between 1024 and 65535, while the value of the other ports should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

Figure 9. 23 External Port Settings Dialog Box

2) Click **Apply** button to save the settings.
3) You can click **Refresh** button to get the latest status of the port mapping.

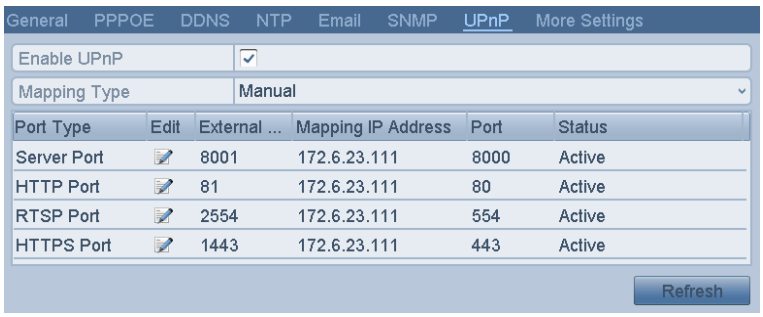


Figure 9. 24 UPnP™ Settings Finished-Manual

9.2.12 Configuring High-speed Download

You can enable the High-speed Download function to widen the outgoing bandwidth of the device. In this way you can speed up the download of record files through IE browser or CMS software.

NOTE

If you enable the high-speed download function, the local menu operation will be affected. It is recommended to disable this function after finishing the remote downloading of record files.

Steps:

1. Enter the Network Settings screen.
   Menu >Configuration> Network
2. Select the **More Settings** tab to enter the More Settings screen, as shown in Figure 9. 14.
3. Check the checkbox of **Enable High-speed Download**. And click the **OK** button in the pop-up message box to confirm the settings.

Figure 9. 25 High-speed Download Settings Menu

Figure 9. 26 Message Box for High-speed Download

4. Click **Apply** button to save and exit the screen.

9.3 Checking Network Traffic

You can check the network traffic to obtain real-time information of NVR such as linking status, MTU, sending/receiving rate, etc.

Steps:

1. Enter the Network Traffic screen.
   Menu >Maintenance>Net Detect

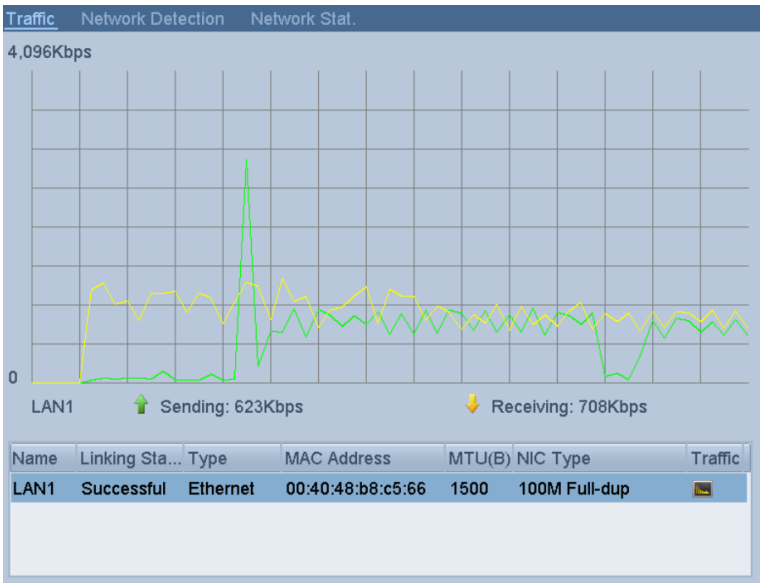


Figure 9. 27 Network Traffic Screen

2. You can view the sending rate and receiving rate information on the screen. The traffic data is refreshed every 1 second.

9.4 Configuring Network Detection

You can obtain network connecting status of NVR through the network detection function, including network delay, packet loss, etc.

9.4.1 Testing Network Delay and Packet Loss

Steps:

1. Enter the Network Traffic screen.
   Menu >Maintenance>Net Detect
2. Click the **Network Detection** tab to enter the Network Detection menu, as shown in Figure 9. 28.

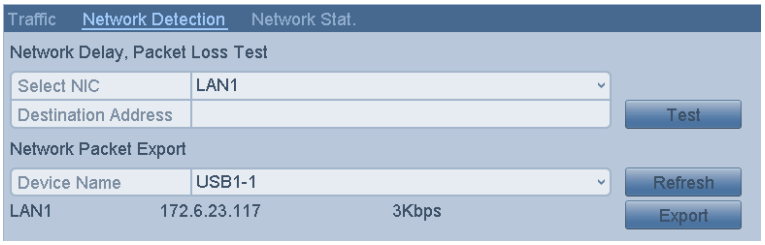


Figure 9. 28 Network Detection Screen

3. Enter the destination address in the text field of **Destination Address**.
4. Click **Test** to start testing network delay and packet loss. The testing result pops up on the window. If the testing is failed, the error message box will pop up as well.

9.4.2 Exporting Network Packet

By connecting the NVR to network, the captured network data packet can be exported to USB-flash disk and other local backup devices.

Steps:

1. Enter the Network Traffic screen.
   Menu >Maintenance>Net Detect
2. Click the **Network Detection** tab to enter the Network Detection screen.
3. Select the backup device from the dropdown list of Device Name, as shown in Figure 9. 29.

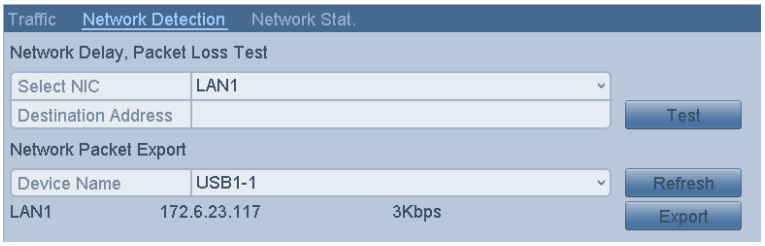


Figure 9. 29 Export Network Packet

4. Click **Export** to start exporting.
5. After the exporting is complete, click **OK** to finish the packet export, as shown in Figure 9. 30.

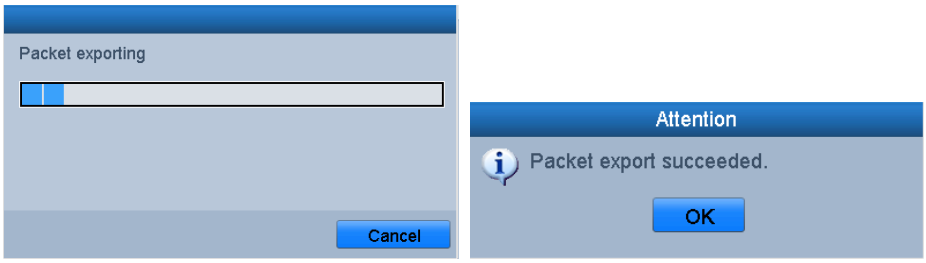


Figure 9. 30 Packet Export

NOTE

Up to 1M data can be exported each time.

9.4.3 Checking the Network Status

You can also check the network status and quick set the network parameters in this screen.

Steps:

Click **Status** button on the right bottom of the page.

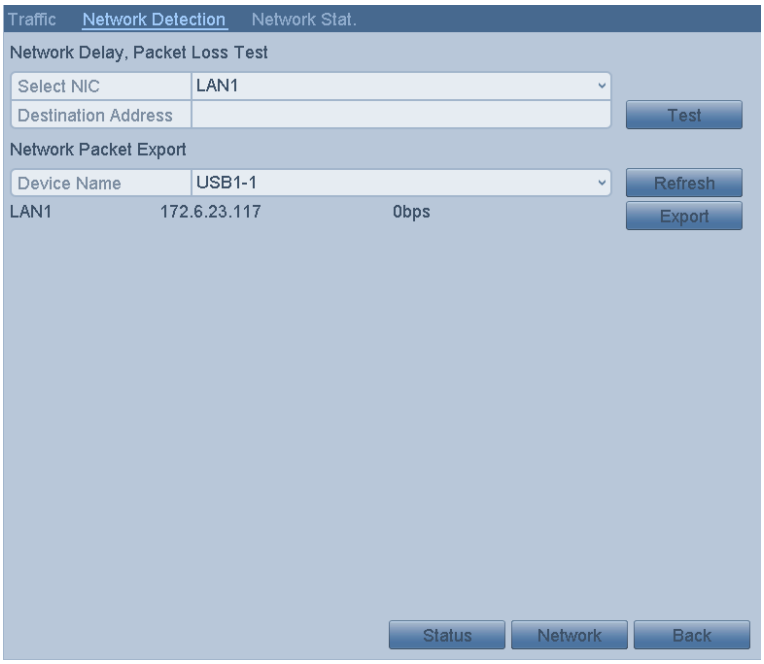


Figure 9. 31 Network status checking

If the network is normal the following message box pops out.

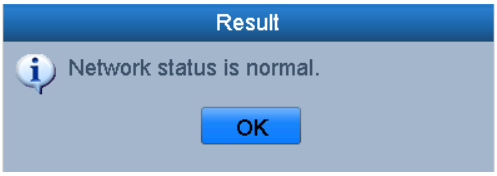


Figure 9. 32 Network status checking result

If the message box pops out with other information instead of this one, you can click **Network** button to show the quick setting screen of the network parameters.

9.4.4 Checking Network Statistics

You can check the network status to obtain the real-time information of NVR.

Steps:

1. Enter the Network Detection screen.
   Menu>Maintenance>Net Detection
2. Choose the **Network Stat.** tab.

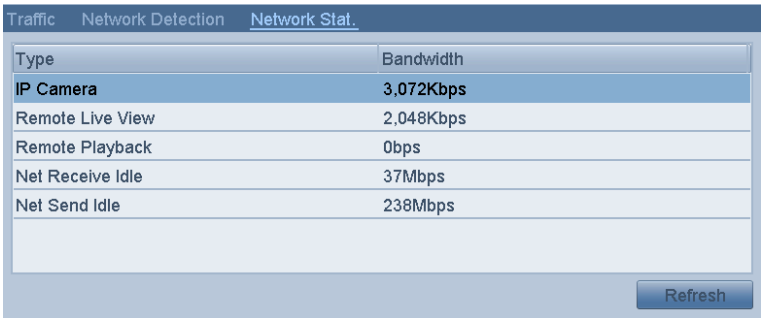


Figure 9. 33 Network Statistics Screen

3. Check the bandwidth of IP Camera, bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Receive Idle and bandwidth of Net Send Idle.
4. You can click **Refresh** button to get the newest status.

Chapter 10 HDD Management

10.1 Initializing HDDs

A newly installed hard disk drive (HDD) must be initialized before it can be used with the NVR.

NOTE

A message box pops up when the NVR starts up if there exits any uninitialized HDD.

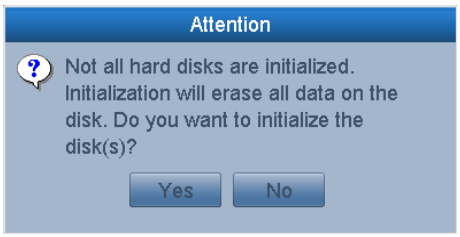

Attention
Not all hard disks are initialized. Initialization will erase all data on the disk. Do you want to initialize the disk(s)?
Yes
No

Figure 10. 1 Message Box for Uninitialized HDD

Click **Yes** button to initialize it immediately or you can perform the following steps to initialize the HDD.

Steps:

1. Enter the HDD Information screen.

   Menu > HDD> General

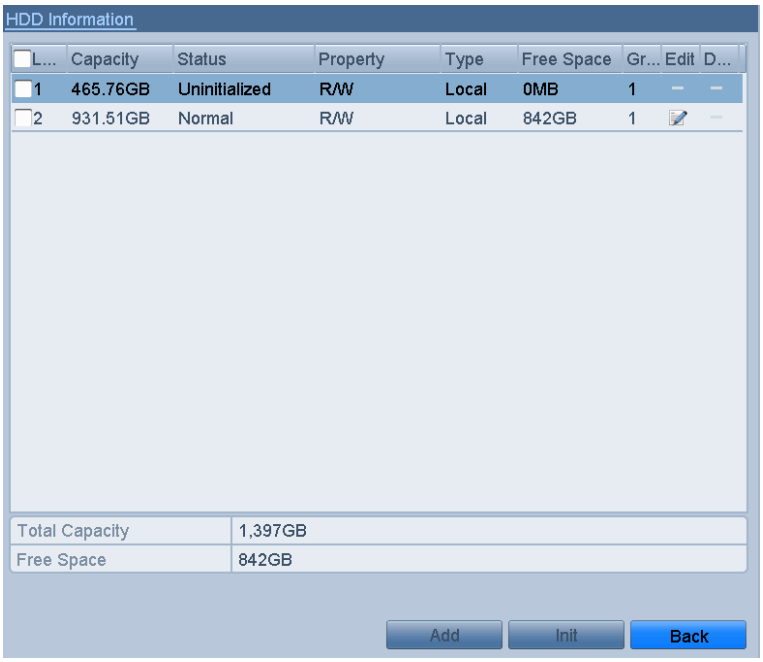


Figure 10. 2 HDD Information Screen

2. Select HDD to be initialized.
3. Click the **Init** button.

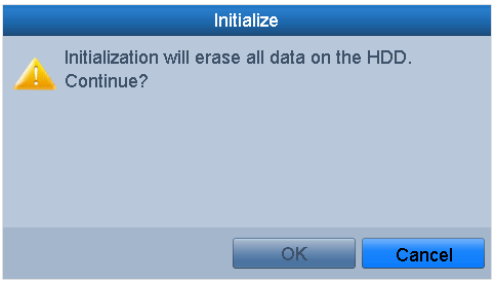


Figure 10. 3 Confirm Initialization

4. Select the **OK** button to start initialization.

HDD Information
L... Capacity Status Property Type Free Space Gr... Edit D...
1 465.76GB Initializing 20% R/W Local 0MB 1
2 931.51GB Normal R/W Local 842GB 1

Figure 10. 4 Formatting Status changes

5. After the HDD has been initialized, the status of the HDD will change from *Uninitialized* to *Normal*.

HDD Information
L... Capacity Status Property Type Free Space Gr... Edit D...
1 465.76GB Normal R/W Local 465GB 1
2 931.51GB Normal R/W Local 842GB 1

Figure 10. 5 HDD Status Changes to Normal

NOTE

Initializing the HDD will erase all data on it.

10.2 Managing Network HDD

You can add the allocated NAS or disk of IP SAN to NVR, and use it as network HDD.

Steps:

1. Enter the HDD Information screen.

   Menu > HDD>General

2. Click the **Add** button to enter the Add NetHDD screen, as shown in Figure 10. 6.

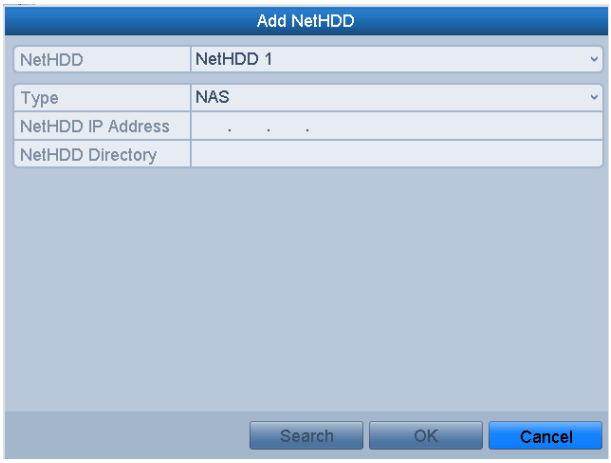


Figure 10. 6 HDD Information Screen

3. Add the allocated NetHDD.
4. Select the type to NAS or IP SAN.
5. Configure the NAS or IP SAN settings.
   - **Add NAS disk:**
     1) Enter the NetHDD IP address in the text field.
     2) Click the **Search** button to search the available NAS disks.
     3) Select the NAS disk from the list shown below.

        Or you can just manually enter the directory in the text field of NetHDD Directory.
     4) Click the **OK** button to add the configured NAS disk.

Up to 8 NAS disks can be added.

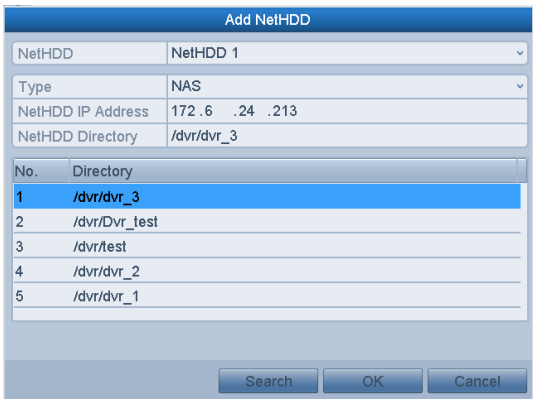


Figure 10. 7 Add NAS Disk

- **Add IP SAN:**
  1) Enter the NetHDD IP address in the text field.
  2) Click the **Search** button to search the available IP SAN disks.
  3) Select the IP SAN disk from the list shown below.
  4) Click the **OK** button to add the selected IP SAN disk.

NOTE

Up to 1 IP SAN disk can be added.

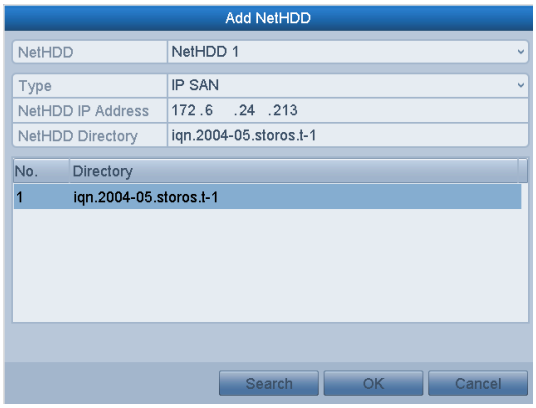


Figure 10. 8 Add IP SAN Disk

6. After having successfully added the NAS or IP SAN disk, return to the HDD Information menu. The added NetHDD will be displayed in the list.

NOTE

If the added NetHDD is uninitialized, please select it and click the **Init** button for initialization.

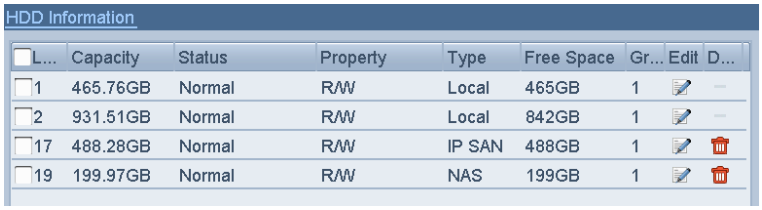


Figure 10. 9 Initialize Added NetHDD

10.3 Managing HDD Group

10.3.1 Setting HDD Groups

Multiple HDDs can be managed in groups. Video from specified channels can be recorded onto a particular HDD group through HDD settings.

Steps:

1. Enter the Storage Mode screen.
   Menu > HDD > Advanced
2. Set the **Mode** to Group, as shown in Figure 10. 10.

Figure 10. 10 Storage Mode Screen

3. Click the **Apply** button and the following Attention box will pop up.

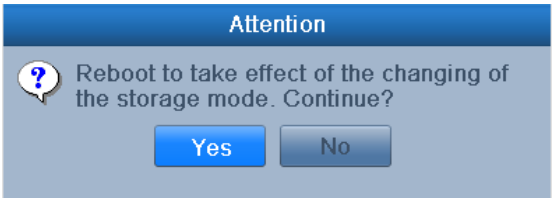


Figure 10. 11 Reboot

4. Click the **Yes** button to reboot the device to activate the changes.
5. After reboot of device, enter the HDD Information screen.
   Menu > HDD> General
6. Select HDD from the list and click icon to enter the Local HDD Settings screen, as shown in Figure 10. 12.

Figure 10. 12 Local HDD Settings Screen

7. Select the Group number for the current HDD.

NOTE

The default group No. for each HDD is 1.

8. Click the **OK** button to confirm the settings.

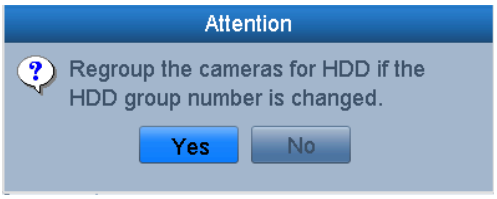


Figure 10. 13 Confirm HDD Group Settings

9. In the pop-up Attention box, click the **Yes** button to finish the settings.

10.3.2 Setting HDD Property

The HDD property can be set to redundancy, read-only or read/write (R/W). Before setting the HDD property, please set the storage mode to Group (refer to step1-4 of Chapter Setting HDD Groups).

A HDD can be set to read-only to prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

When the HDD property is set to redundancy, the video can be recorded both onto the redundancy HDD and the R/W HDD simultaneously so as to ensure high security and reliability of video data.

Steps:

1. Enter the HDD Information screen.

   Menu > HDD> General

2. Select HDD from the list and click the icon to enter the Local HDD Settings screen, as shown in Figure 10. 14.

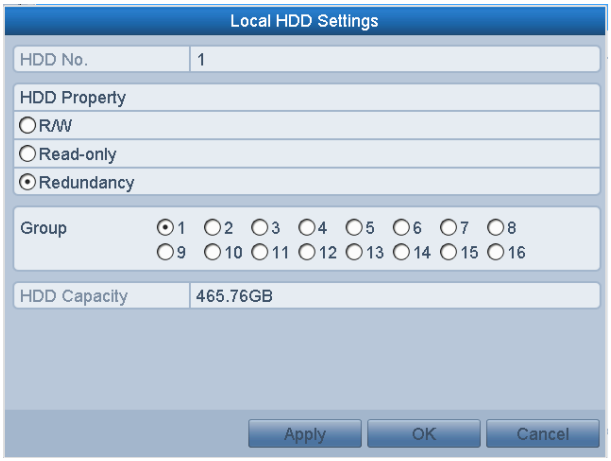


Figure 10. 14 Set HDD Property

3. Set the HDD property to R/W, Read-only or Redundancy.
4. Click the **OK** button to save the settings and exit the screen.
5. In the HDD Information menu, the HDD property will be displayed in the list.

At least 2 hard disks must be installed on your NVR when you want to set a HDD to Redundancy, and there is one HDD with R/W property.

10.4 Configuring Quota Mode

Each camera can be configured with allocated quota for the storage of recorded files.

Steps:

1. Enter the Storage Mode screen.

   Menu > HDD > Advanced

2. Set the **Mode** to Quota, as shown in Figure 10. 15.

   NOTE

   The NVR must be rebooted to enable the changes to take effect.

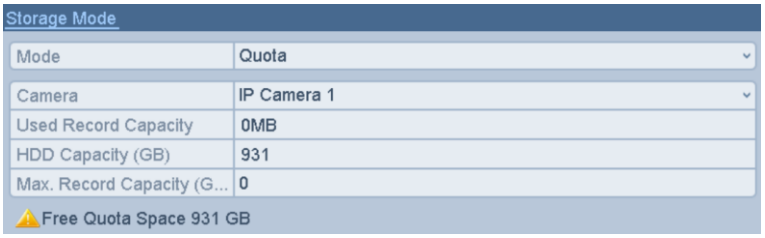


Figure 10. 15 Storage Mode Settings Screen

3. Select a camera for which you want to configure quota.
4. Enter the storage capacity in the text fields of **Max. Record Capacity (GB)**, as shown in Figure 10. 16.

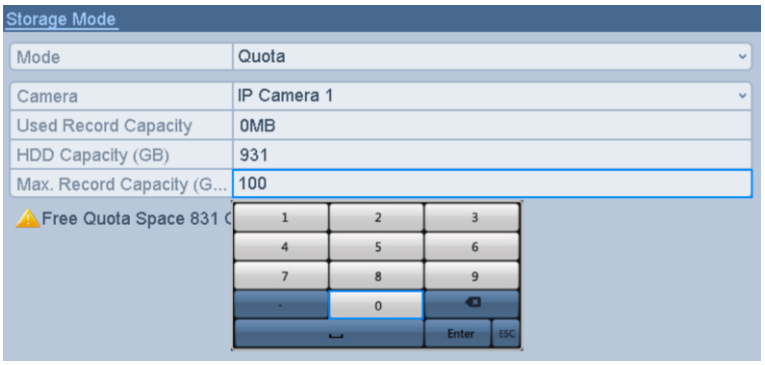


Figure 10. 16 Configure Record Quota

5. You can copy the quota settings of the current camera to other cameras if required. Click the **Copy** button to enter the Copy Camera menu, as shown in Figure 10. 17.

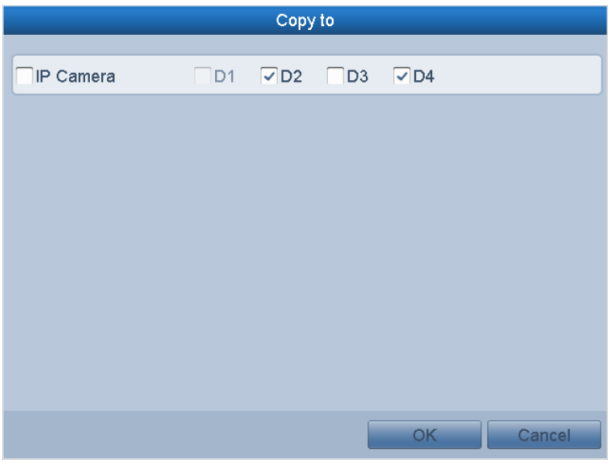


Figure 10. 17 Copy Settings to Other Camera(s)

6. Select the camera (s) to be configured with the same quota settings. You can also click the checkbox of IP Camera to select all cameras.
7. Click the **OK** button to finish the Copy settings and back to the Storage Mode screen.
8. Click the **Apply** button to apply the settings.

NOTE

If the quota capacity is set to *0*, then all cameras will use the total capacity of HDD for record.

10.5 Checking HDD Status

You may check the status of the installed HDDs on NVR so as to take immediate check and maintenance in case of HDD failure.

Checking HDD Status in HDD Information Screen

Steps:

1. Enter the HDD Information screen.
   Menu > HDD>General
2. Check the status of each HDD which is displayed on the list, as shown in Figure 10. 18.

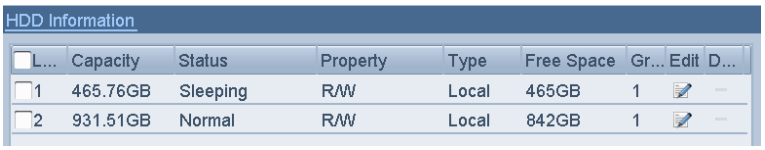


Figure 10. 18 View HDD Status (1)

NOTE

If the status of HDD is *Normal* or *Sleeping*, it works normally. If the status is *Uninitialized* or *Abnormal*, please initialize the HDD before use. And if the HDD initialization is failed, please replace it with a new one.

Checking HDD Status in HDD Information Screen

Steps:

1. Enter the System Information screen.
   Menu >Maintenance > System Info
2. Click the **HDD** tab to view the status of each HDD displayed on the list, as shown in Figure 10. 19.

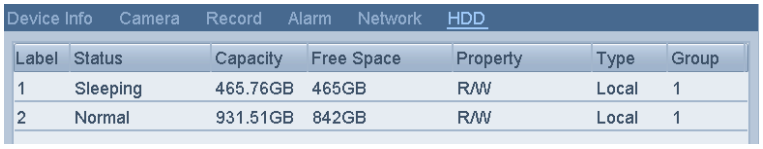


Figure 10. 19 View HDD Status (2)

10.6 HDD Detection

The device provides the HDD detection function such as the adopting of the S.M.A.R.T. and the Bad Sector Detection technique. The S.M.A.R.T. *(*Self-Monitoring, Analysis and Reporting Technology*)* is a monitoring system for HDD to detect and report on various indicators of reliability in the hopes of anticipating failures.

S.M.A.R.T. Settings

Steps:

1. Enter the S.M.A.R.T Settings screen.

   Menu > HDD > HDD Detect

2. Select the HDD to view its S.M.A.R.T information list, as shown in Figure 10. 20.

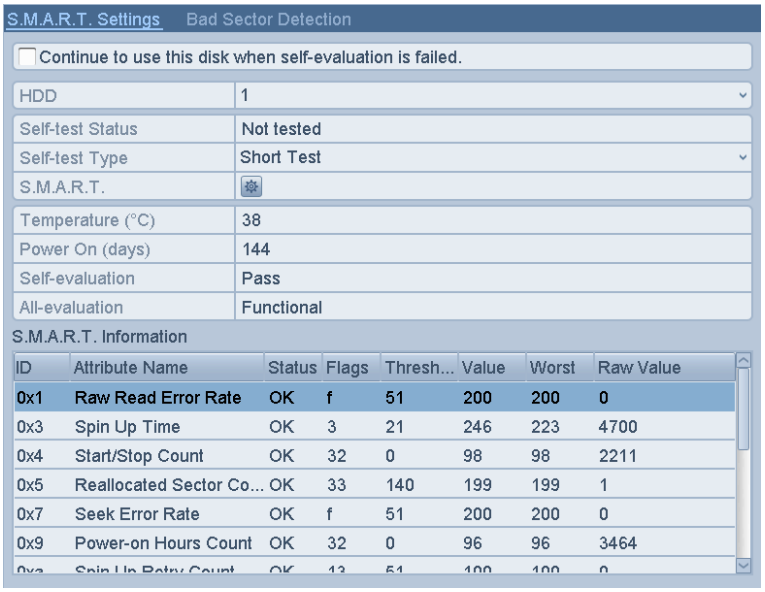


Figure 10. 20 S.M.A.R.T Settings Screen

The related information of the S.M.A.R.T. is shown on the screen.

You can choose the self-test types as Short Test, Expanded Test or the Conveyance Test.

Click the button to start the S.M.A.R.T. HDD self-evaluation.

NOTE

If you want to use the HDD even when the S.M.A.R.T. checking is failed, you can check the checkbox of the **Continue to use the disk when self-evaluation is failed** item.

Bad Sector Detection

Steps:

1. Click the Bad Sector Detection tab.
2. Select the HDD No. in the dropdown list you want to configure, and choose All Detection or Key Area Detection as the detection type.
3. Click the **Detect** button to start the detection.

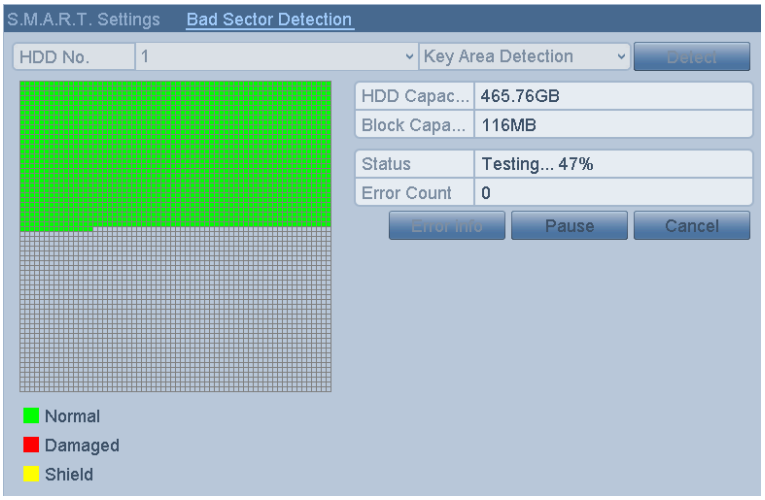


Figure 10. 21 Bad Sector Detection

And you can click **Error info** button to see the detailed damage information

And you can also pause/resume or cancel the detection.

10.7 Configuring HDD Error Alarms

You can configure the HDD error alarms when the HDD status is *Uninitialized* or *Abnormal*.

Steps:

1. Enter the Exception screen.
   Menu > Configuration > Exceptions
2. Select the Exception Type to **HDD Error** from the dropdown list.
3. Click the checkbox(s) below to select the HDD error alarm type (s), as shown in Figure 10. 22.

NOTE

The alarm type can be selected to: Audio Warning, Notify Surveillance Center, Send Email and Trigger Alarm Output. Please refer to *Chapter Setting Alarm Response Actions*.

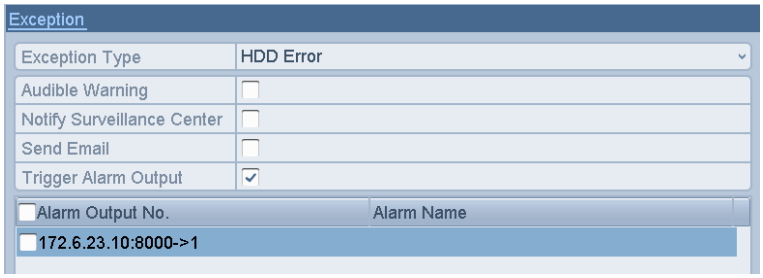


Figure 10. 22 Configure HDD Error Alarm

4. When the Trigger Alarm Output is selected, you can also select the alarm output to be triggered from the list below.
5. Click the **Apply** button to save the settings.

Chapter 11 Camera Settings

11.1 Configuring OSD Settings

You can configure the OSD (On-screen Display) settings for the camera, including date /time, camera name, etc.

Steps:

1. Enter the OSD Configuration screen.
   Menu > Camera > OSD
2. Select the camera to configure OSD settings.
3. Edit the Camera Name in the text field.
4. Configure the Display Name, Display Date and Display Week by clicking the checkbox.
5. Select the Date Format, Time Format and Display Mode.

Figure 11. 1 OSD Configuration Screen

6. You can use the mouse to click and drag the text frame on the preview window to adjust the OSD position.
7. Click the **Apply** button to apply the settings.

11.2 Configuring Privacy Mask

You can configure four-sided privacy mask zones that cannot be viewed by the operator. The privacy mask can prevent certain surveillance areas to be viewed or recorded.

Steps:

1. Enter the Privacy Mask Settings screen.
   Menu > Camera >Privacy Mask
2. Select the camera to set privacy mask.
3. Click the checkbox of **Enable Privacy Mask** to enable this feature.

Figure 11. 2 Privacy Mask Settings Screen

4. Use the mouse to draw a zone on the window. The zones will be marked with different frame colors.

   NOTE

   Up to 4 privacy masks zones can be configured and the size of each area can be adjusted.
5. The configured privacy mask zones on the window can be cleared by clicking the corresponding Clear Zone1-4 icons on the right side of the window, or click **Clear All** to clear all zones.

Figure 11. 3 Set Privacy Mask Area

6. Click the **Apply** button to save the settings.

11.3 Configuring Video Parameters

Steps:

1. Enter the Image Settings screen.

   Menu > Camera >Image

Figure 11. 4 Image Settings Screen

2. Select the camera to set image parameters.
3. You can click on the arrow to change the value of each parameter.
4. Click the **Apply** button to save the settings.

Chapter 12 NVR Management and Maintenance

12.1 Viewing System Information

12.1.1 Viewing Device Information

Steps:

1. Enter the System Information screen.
   Menu >Maintenance>System Info
2. Click the **Device Info** tab to enter the Device Information menu to view the device name, model, serial No. , firmware version and encode version, as shown in Figure 12. 1.

Figure 12. 1 Device Information Screen

12.1.2 Viewing Camera Information

Steps:

1. Enter the System Information screen.
   Menu >Maintenance>System Info
2. Click the **Camera** tab to enter the Camera Information menu to view the status of each camera, as shown in Figure 12. 2.

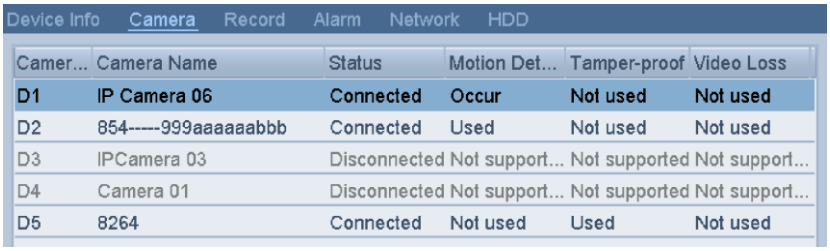


Figure 12. 2 Camera Information Screen

12.1.3 Viewing Record Information

Steps:

1. Enter the System Information screen.
   Menu >Maintenance>System Info
2. Click the **Record** tab to enter the Record Information menu to view the recording status recording parameters of each camera, as shown in Figure 12. 3.

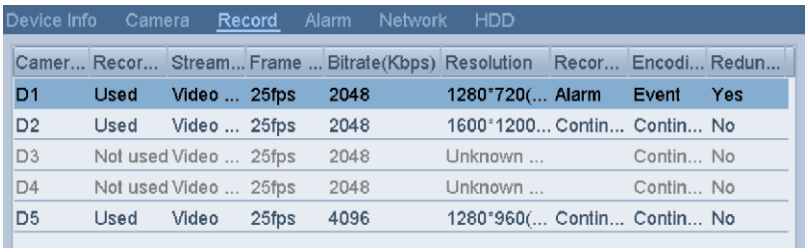

Device Info
Camera
Record
Alarm
Network
HDD
Camer... Recor... Stream... Frame ... Bitrate(Kbps) Resolution Recor... Encodi... Redun...
D1 Used Video ... 25fps 2048 1280*720(... Alarm Event Yes
D2 Used Video ... 25fps 2048 1600*1200... Contin... Contin... No
D3 Not used Video ... 25fps 2048 Unknown ... Contin... No
D4 Not used Video ... 25fps 2048 Unknown ... Contin... No
D5 Used Video 25fps 4096 1280*960(... Contin... Contin... No

Figure 12. 3 Record Information Screen

12.1.4 Viewing Alarm Information

Steps:

1. Enter the System Information screen.
   Menu >Maintenance>System Info
2. Click the **Alarm** tab to enter the Alarm Information menu to view the alarm information, as shown in Figure 12. 4.

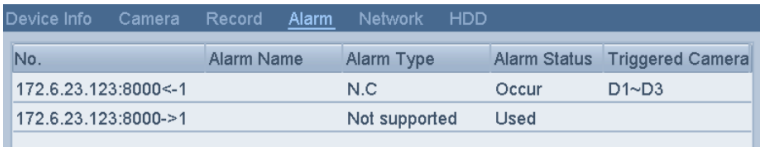


Figure 12. 4 Alarm Information Screen

12.1.5 Viewing Network Information

Steps:

1. Enter the System Information screen.
   Menu >Maintenance>System Info
2. Click the **Network** tab to enter the Network Information menu to view the network information, as shown in Figure 12. 5.

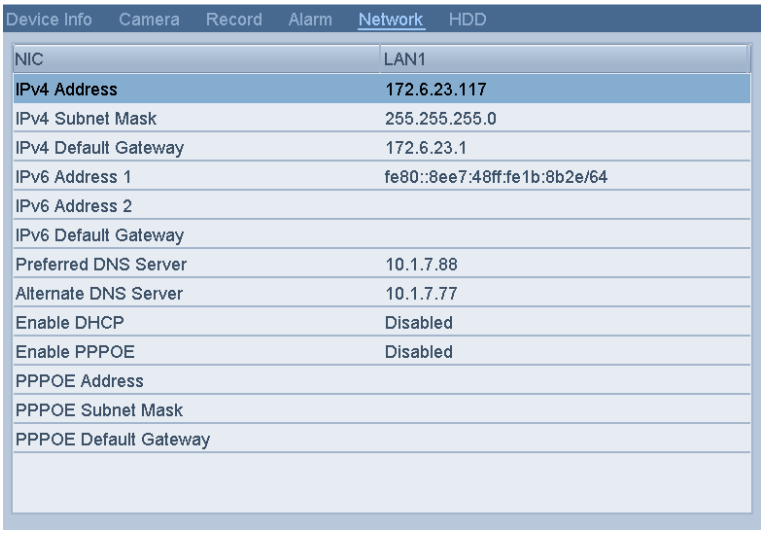


Figure 12. 5 Network Information Screen

12.1.6 Viewing HDD Information

Steps:

1. Enter the System Information screen.

   Menu >Maintenance>System Info

2. Click the **HDD** tab to enter the HDD Information menu to view the HDD status, free space, property, etc..

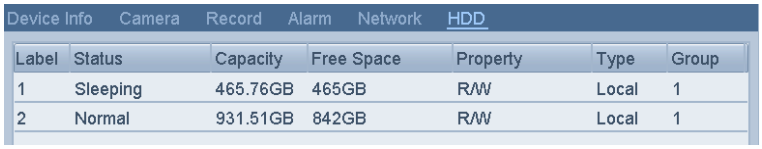


Figure 12. 6 HDD Information Screen

12.2 Searching & Export Log Files

The operation, alarm, exception and information of the NVR can be stored in log files, which can be viewed and exported at any time.

Steps:

1. Enter the Log Search screen.

   Menu >Maintenance>Log Search

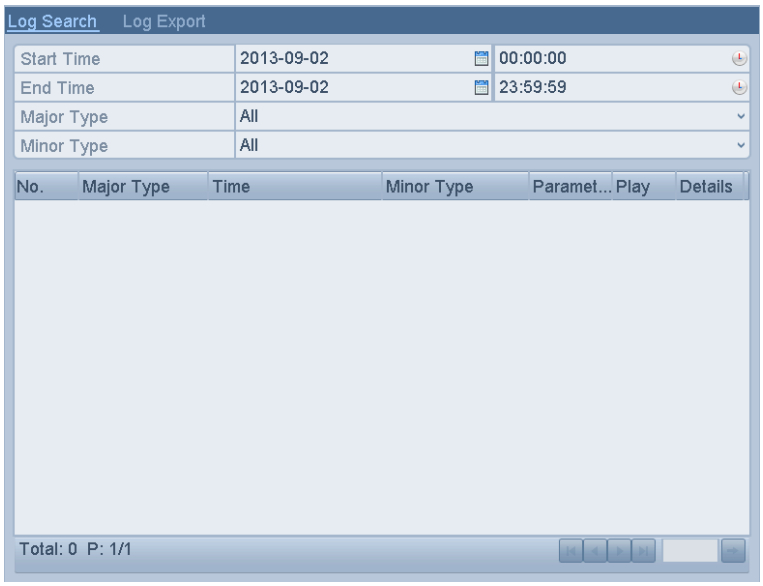


Figure 12. 7 Log Search Screen

2. Set the log search conditions to refine your search, including the Start Time, End Time, Major Type and Minor Type.
3. Click the **Search** button to start search log files.

   The matched log files will be displayed on the list shown below.

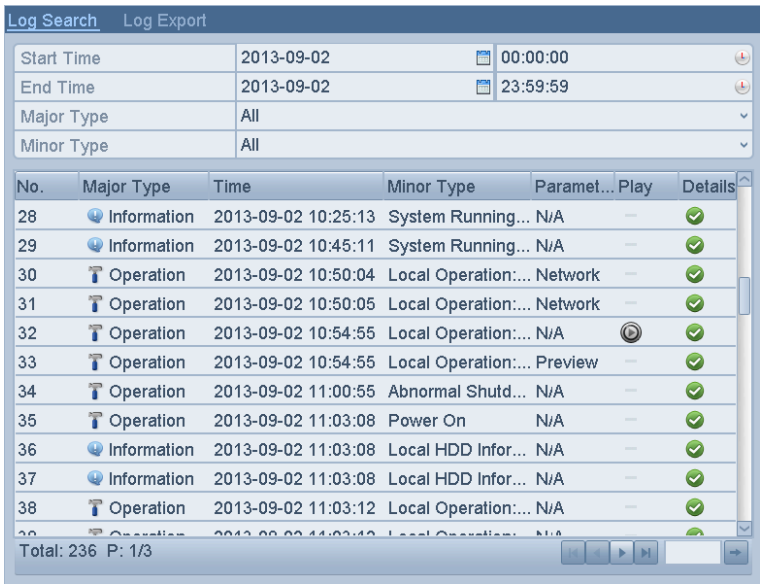

Log Search
Log Export
Start Time
2013-09-02
00:00:00
End Time
2013-09-02
23:59:59
Major Type
All
Minor Type
All
No. Major Type Time Minor Type Paramet... Play Details
28 Information 2013-09-02 10:25:13 System Running... N/A
29 Information 2013-09-02 10:45:11 System Running... N/A
30 Operation 2013-09-02 10:50:04 Local Operation:... Network
31 Operation 2013-09-02 10:50:05 Local Operation:... Network
32 Operation 2013-09-02 10:54:55 Local Operation:... N/A
33 Operation 2013-09-02 10:54:55 Local Operation:... Preview
34 Operation 2013-09-02 11:00:55 Abnormal Shutd... N/A
35 Operation 2013-09-02 11:03:08 Power On N/A
36 Information 2013-09-02 11:03:08 Local HDD Infor... N/A
37 Information 2013-09-02 11:03:08 Local HDD Infor... N/A
38 Operation 2013-09-02 11:03:12 Local Operation:... N/A
Total: 236 P: 1/3

Figure 12. 8 Log Search Results

NOTE

Up to 2000 log files can be displayed each time.

4. You can click the button of each log or double click it to view its detailed information, as shown in Figure 12. 9. And you can also click the button to view the related video files if available.

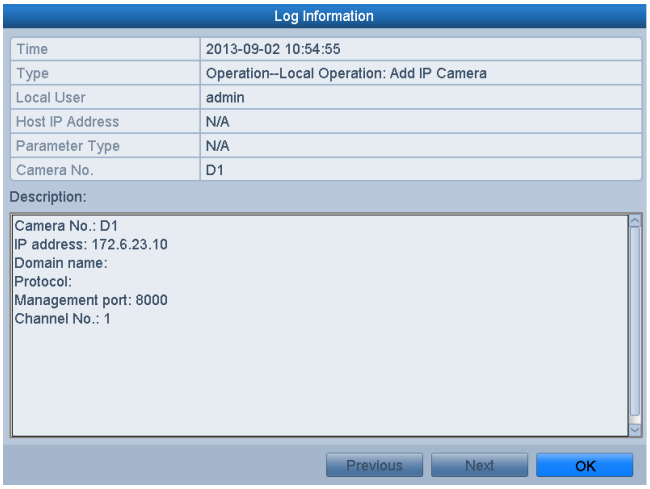


Figure 12. 9 Log Details

5. You can export the log files to the backup device if needed.

1) Enter the Export screen.

Option 1: Export all logs you searched out

Search the log files, and then click **Export** on the Log Search screen to enter the Export screen. All the logs you searched out will be exported to the backup device.

Option 2: Export all logs stored on the HDD

Click the **Log Export** tab to enter the Log Export screen, check the checkbox to select the HDD and then click **Export** on the Log Export screen to enter the Export screen. All the logs stored on the selected HDD will be exported to the backup device.

Figure 12. 10 Log Export Screen

2) Select the backup device from the drop-down list, and click **Export** to start the export process.

Figure 12. 11 Export Selected Log

3) Click **OK** to confirm the settings on the pop-up message box after the export process is complete.

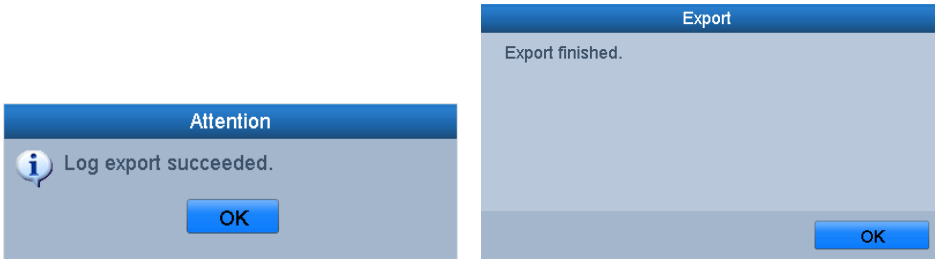


Figure 12. 12 Log Export Finished

4) The exported log files will be displayed on a list.

Click the icon , and you can delete the selected log file from the backup device.

Figure 12. 13 Log Export Result

NOTE

- Please connect the backup device to device before operating log export.
- The log files exported to the backup device are named by exporting time, e.g., *20130902160455logBack.txt*.

12.3 Importing/Exporting Configuration Files

The configuration files of the NVR can be exported to local device for backup; and the configuration files of one NVR can be imported to multiple NVR devices if they are to be configured with the same parameters.

Steps:

1. Enter the Import/Export Configuration File screen.
   Menu > Maintenance >Import/Export

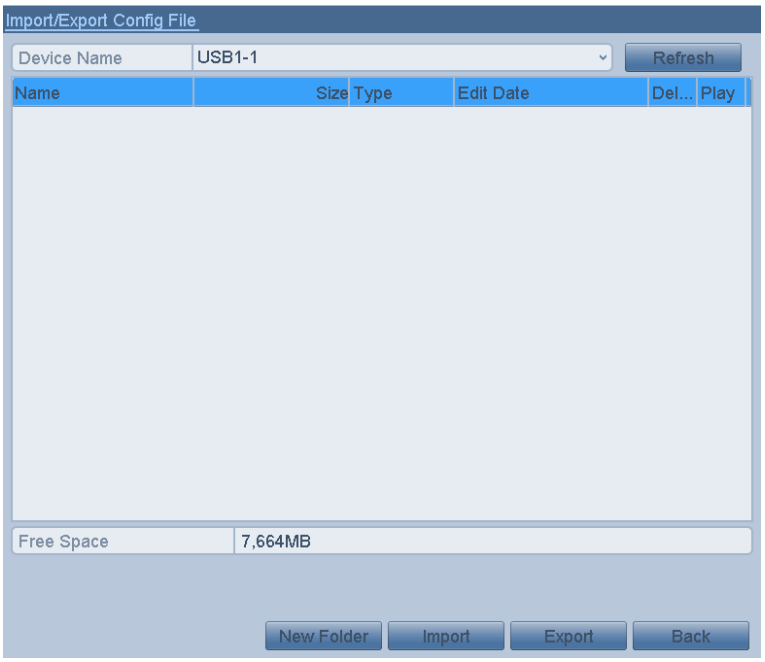


Figure 12. 14 Import/Export Config File

2. Click the **Export** button to export configuration files to the selected local backup device.
3. To import a configuration file, select the file from the selected backup device and click the **Import** button.
   After the import process is completed, you must reboot the NVR.

NOTE

After having finished the import of configuration files, the device will reboot automatically.

12.4 Upgrading System

The firmware on your NVR can be upgraded by local backup device or remote FTP server.

12.4.1 Upgrading by Local Backup Device

Steps:

1. Connect your NVR with a local backup device where the update firmware file is located.
2. Enter the Upgrade screen.
   Menu >Maintenance>Upgrade
3. Click the **Local Upgrade** tab to enter the local upgrade menu, as shown in Figure 12. 15.

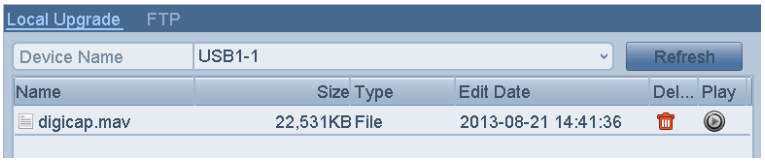


Figure 12. 15 Local Upgrade Screen

4. Select the update file from the backup device.
5. Click the **Upgrade** button to start upgrading.
6. After the upgrading is complete, reboot the NVR to activate the new firmware.

12.4.2 Upgrading by FTP

Before you start:

Configure PC (running FTP server) and NVR to the same Local Area Network. Run the 3rd-party TFTP software on the PC and copy the firmware into the root directory of TFTP.

Steps:

1. Enter the Upgrade screen.
   Menu >Maintenance>Upgrade
2. Click the **FTP** tab to enter the local upgrade screen, as shown in Figure 12. 16.

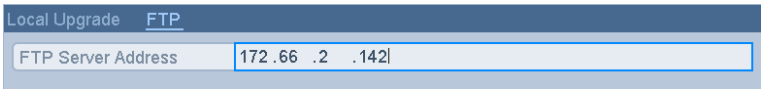


Figure 12. 16 FTP Upgrade Screen

3. Enter the FTP Server Address in the text field.
4. Click the **Upgrade** button to start upgrading.
5. After the upgrading is complete, reboot the NVR to activate the new firmware.

12.5 Restoring Default Settings

Steps:

1. Enter the Default screen.

   Menu > Maintenance > Default

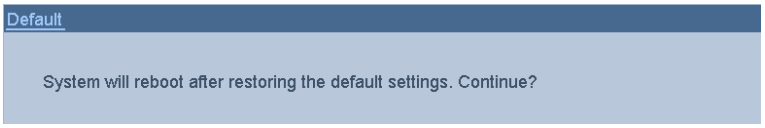


Figure 12. 17 Restore Factory Default

2. Click the **OK** button to restore the default settings.

NOTE

Except the network parameters (including IP address, subnet mask, gateway, MTU, default route and server port), all other parameters of the device will be restored to factory default settings.

Chapter 13 Others

13.1 Configuring General Settings

You can configure the output resolution, system time, mouse pointer speed through the Menu > Configuration > General screen.

Steps:

1. Enter the General Settings screen.
   Menu > Configuration > General
2. Select the **General** tab.

Figure 13. 1 General Settings Screen

3. Configure the following settings:
   - **Language:** The default language used is *English*.
   - **Resolution:** Select the output resolution, which must be the same with the resolution of the monitor screen.
   - **Time Zone:** Select the time zone.
   - **Date Format:** Select the date format.
   - **System Date:** Select the system date.
   - **System Time:** Select the system time.
   - **Mouse Pointer Speed:** Set the speed of mouse pointer; 4 levels are configurable.
   - **Enable Wizard:** Enable/disable the Wizard when the device starts up.
   - **Enable Password:** Enable/disable the use of the login password.
4. Click the **Apply** button to save the settings.

13.2 Configuring DST Settings

Steps:

1. Enter the General Settings screen.

   Menu >Configuration>General

2. Choose **DST Settings** tab.

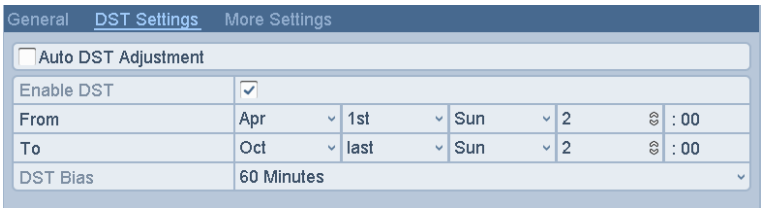


Figure 13. 2 DST Settings Screen

You can check the checkbox before the Auto DST Adjustment item.

Or you can manually check the Enable DST checkbox, and then you choose the date of the DST period.

13.3 Configuring More Settings for Device Parameters

Steps:

1. Enter the General Settings screen.
   Menu >Configuration>General
2. Click the **More Settings** tab to enter the More Settings screen, as shown in Figure 13. 3.

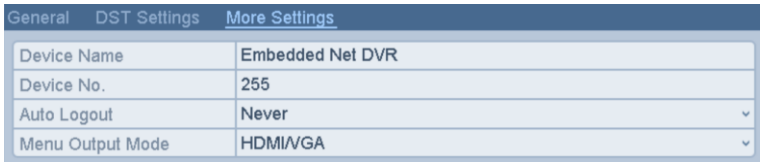


Figure 13. 3 More Settings Screen

3. Configure the following settings:
   - **Device Name:** Edit the name of NVR.
   - **Device No.:** Edit the serial number of NVR. The Device No. can be set in the range of 1~255, and the default No. is 255. The number is used for the remote and keyboard control.
   - **Auto Logout:** Set timeout time for menu inactivity. E.g.,when the timeout time is set to *5 Minutes*, then the system will exit from the current operation menu to live view screen after 5 minutes of menu inactivity.
   - **Menu Output Mode:** You can choose the menu display on different video output.
4. Click the **Apply** button to save the settings.

13.4 Managing User Accounts

There is a default account in the NVR: *Administrator*. The *Administrator* user name is *admin* and the password is *12345*. The *Administrator* has the permission to add and delete user and configure user parameters.

13.4.1 Adding a User

Steps:

1. Enter the User Management screen.

   Menu >Configuration>User

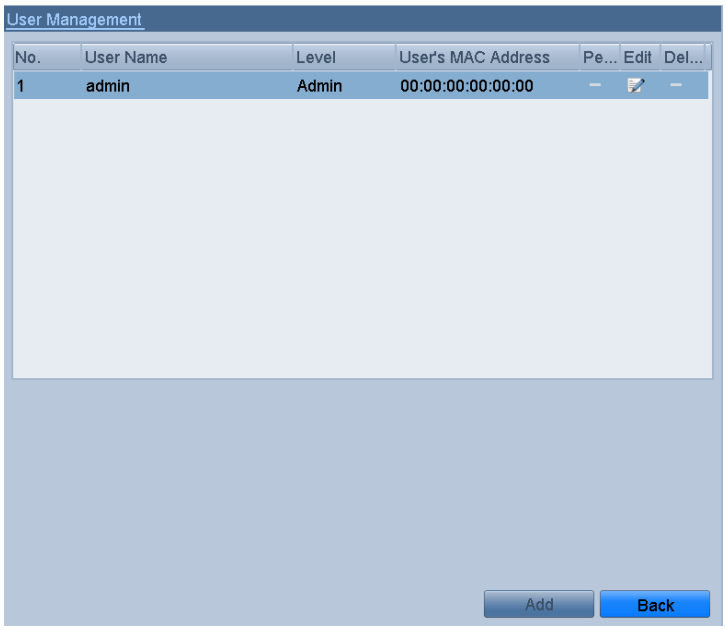


Figure 13. 4 User Management Screen

2. Click the **Add** button to enter the Add User screen.

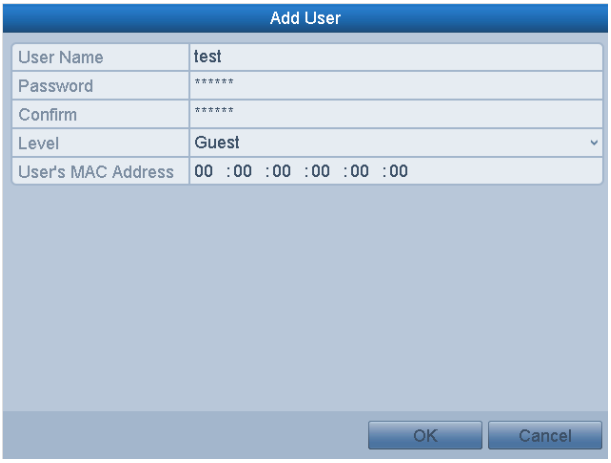


Figure 13. 5 Add User Menu

3. Enter the information for new user, including **User Name**, **Password**, **Level** and **User's MAC Address**.

Level: Set the user level to Operator or Guest. Different user levels have different operating permission.

- **Operator:** The *Operator* user level has permission of Two-way Audio in Remote Configuration and all operating permission in Camera Configuration.
- **Guest:** The Guest user has no permission of Two-way Audio in Remote Configuration and only has the local/remote playback in the Camera Configuration.

User's MAC Address: The MAC address of the remote PC which logs onto the NVR. If it is configured and enabled, it only allows the remote user with this MAC address to access the NVR.

4. Click the **OK** button to save the settings and go back to the User Management screen. The added new user will be displayed on the list, as shown in Figure 13. 6.

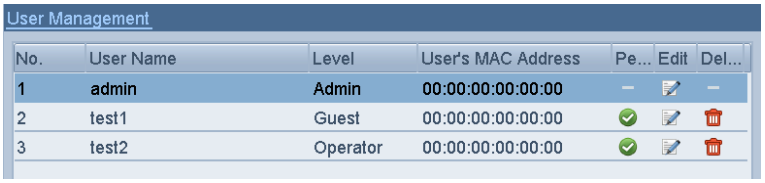


Figure 13. 6 Added User Listed in User Management Screen

5. Select the user from the list and then click the button to enter the Permission settings screen, as shown in Figure 13. 7.

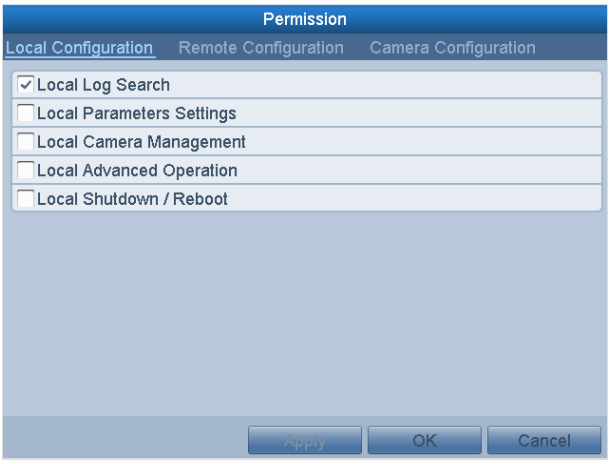


Figure 13. 7 User Permission Settings Screen

6. Set the operating permission of Local Configuration, Remote Configuration and Camera Configuration for the user.

Local Configuration

- Local Log Search: Searching and viewing logs and system information of NVR.
- Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Local Camera Management: The adding, deleting and editing of IP cameras.
- Local Advanced Operation: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- Local Shutdown Reboot: Shutting down or rebooting the NVR.

Remote Configuration

- Remote Log Search: Remotely viewing logs that are saved on the NVR.
- Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Remote Camera Management: Remote adding, deleting and editing of the IP cameras.

- Remote Serial Port Control: Configuring settings for RS-232 and RS-485 ports.
- Remote Video Output Control: Sending remote button control signal.
- Two-Way Audio: Realizing two-way radio between the remote client and the NVR.
- Remote Alarm Control: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- Remote Advanced Operation: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- Remote Shutdown/Reboot: Remotely shutting down or rebooting the NVR.

Camera Configuration

- Remote Live View: Remotely viewing live video of the selected camera (s).
- Local Manual Operation: Locally starting/stopping manual recording and alarm output of the selected camera (s).
- Remote Manual Operation: Remotely starting/stopping manual recording and alarm output of the selected camera (s).
- Local Playback: Locally playing back recorded files of the selected camera (s).
- Remote Playback: Remotely playing back recorded files of the selected camera (s).
- Local PTZ Control: Locally controlling PTZ movement of the selected camera (s).
- Remote PTZ Control: Remotely controlling PTZ movement of the selected camera (s).
- Local Video Export: Locally exporting recorded files of the selected camera (s).

7. Click the **OK** button to save the settings and exit screen.

Only the *admin* user account has the permission of restoring factory default parameters.

13.4.2 Deleting a User

Steps:

1. Enter the User Management screen.
   Menu > Configuration > User
2. Select the user to be deleted from the list, as shown in Figure 13. 8.

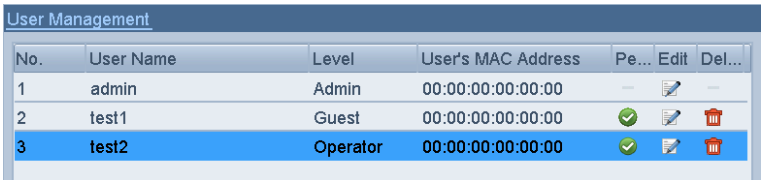


Figure 13. 8 User List

3. Click the icon to delete the selected user.

13.4.3 Editing a User

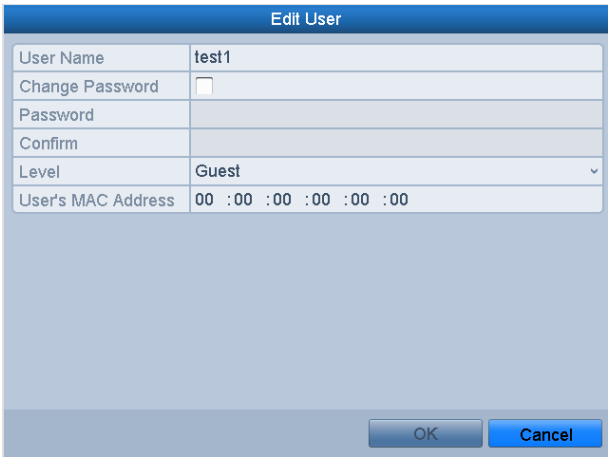
Steps:

1. Enter the User Management screen.
   Menu >Configuration>User
2. Select the user to be edited from the list, as shown in Figure 13. 8.

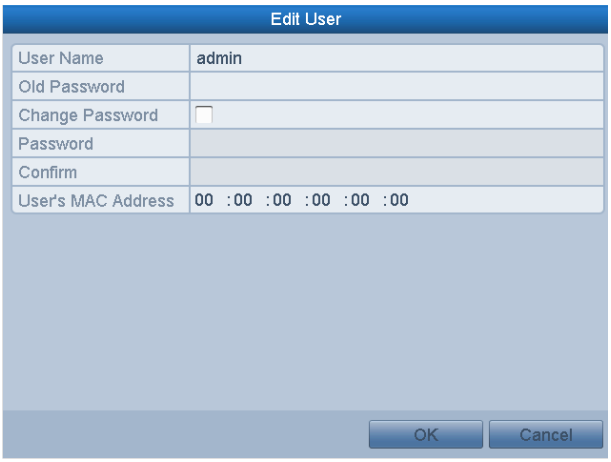
3. Click the icon to enter the Edit User screen, as shown in Figure 13. 9.

NOTE

The admin user can also be edited.



Guest and Operator



Admin

Figure 13. 9 Edit User Screen

4. Edit the user information, including user name, password, level and MAC address.

   Check the checkbox of **Change Password** if you want to change the password of the current user.

5. Click the **OK** button to save the settings and exit the menu.

13.5 Logging out / Shutting down / Rebooting Device

Steps:

1. Enter the Shutdown screen.
   Menu > Shutdown

Figure 13. 10 Shutdown Menu

2. Click the **Logout** button to log out, or
   Click the **Shutdown** button to shut down the device, or
   Click the **Reboot** button to reboot the device.

NOTE

After you have logged out the system, menu operation on the screen is invalid. It is required a user name and password to log in to the system.

Appendix

Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **PPPoE:** PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of anNTSC signal contains 525 scan lines at 60Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.
- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to screen devices to a host computer.

List of Compatible IP Cameras

Note: **ONVIF compatibility** refers to the camera can be supported both when it uses the ONVIF protocol and its private protocols. **Only ONVIF is supported** refers to the camera can only be supported when it uses the ONVIF protocol. **Only AXIS is supported** refers to the function can only be supported when it uses the AXIS protocol.

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
ACTI	TCM4301-10D-X-00083	A1D-310-V4.12.09-AC	1280×1024	×	√
	TCM5311-11D-X-00023	A1D-310-V4.12.09-AC	1280×960	×	√
	TCM3401-09L-X-00227	A1D-220-V3.13.16-AC	1280×1024	×	×
ARECONT	AV8185DN	65172	1600×1200	×	×
	AV1305M	65175	1280×1024	√	×
	AV2155	65143	1600×1200	√	×
	AV2815	65220	1920×1080	√	×
	AV3105M	65175	1920×1080	√	×
	AV5105	65175	1920×1080	√	×
AXIS	M1114	5.09.1	1024×640	√	×
	M3011(ONVIF compatibility)	5.21	704×576	√ (Only AXIS is supported)	×
	M3014(ONVIF compatibility)	5.21.1	1280×800	√	×
	P3301(ONVIF compatibility)	5.11.2	768×576	√	√ (Only AXIS is supported)
	P3304(ONVIF compatibility)	5.20	1440×900	√	√ (Only AXIS is supported)
	P3343(ONVIF compatibility)	5.20.1	800×600	√	√ (Only AXIS is supported)
	P3344(ONVIF compatibility)	5.20.1	1440×900	√	√ (Only AXIS is supported)
	P5532	5.15	720×576	√	×
	Q7404	5.02	720×576	√	√
Bosch (ONVIF compatibility)	AutoDome Jr 800 HD	39500450	1920×1080	×	√
	NBC 265 P	07500453	1280×720	×	√
	Dinion NBN-921-P	10500453	1280×720	×	√
Brickcom	FB-130Np (ONVIF compatibility)	V3.1.0.8	1280×1024	×	√
	CB-500Ap (ONVIF compatibility)	V3.2.1.3	1280×1024	×	√
	WFB-100Ap	V3.1.0.9	1280×800	×	√
Canon	VB-M400	Ver.+1.0.0	1280×960	×	√
	VB-M6000D	Ver.+1.0.0	1280×960	×	×

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	VB-M7000F	Ver.+1.0.0	1280×960	×	√
Hikvision	DS-2CD883F-E	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD783F-E(I)	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD8283F-E(I)	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD886BF-E	V4.0.3 build 120913	2560×1920	√	√
	DS-2CD886MF-E	V4.0.3 build 120913	2560×1920	√	√
	DS-2CD854F-E	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD754F-E(I)	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD8254F-E(I)	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD754FWD-E(I)	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD8254FWD-EIZ	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD753F-E(I)	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD853F-E	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD8153F-E	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD8253F-E(I)	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD7153-E	V4.1.0 build 130111	1600×1200	√	×
	DS-2CD876BF-E	V4.0.3 build 120913	1600×1200	√	√
	DS-2CD876MF-E	V4.0.3 build 120913	1600×1200	√	√
	DS-2CD877BF	V4.0.3 build 120913	1920×1080	√	√
	DS-2CD855F-E	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD752MF-E	V2.0 build 110614	1600×1200	√	√
	DS-2CD852MF-E	V2.0 build 110426			
	DS-2CD852F-E	V2.0 build 100521			
	DS-2CD862MF-E	V2.0 build 110614	1280×960	√	√
		V2.0 build 110426			
		V2.0 build 100521			
	DS-2CD8464F-EI	V4.1.0 build 130111	1280×960	√	√

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-2CD863PF/NF-E	V4.1.0 build 130111	1280×960	√	√
	DS-2CD864FWD-E	V4.1.0 build 130111	1280×720	√	√
	DS-2CD763PF/NF-E	V4.1.0 build 130111	1280×960	√	√
	DS-2CD763PF/NF-EI	V4.1.0 build 130111	1280×960	√	√
	DS-2CD7164-E	V4.1.0 build 130111	1280×720	√	×
	DS-2CD764FWD-E(I)	V4.1.0 build 130111	1280×720	√	√
	DS-2CD8264FWD-E(I)	V4.1.0 build 130111	1280×720	√	√
	DS-2CD2012-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2112-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2212-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2312-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2032-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2132-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2232-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2332-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD7133F-E	V4.1.0 build 130111	640×480	√	×
	DS-2CD733F-E(I)	V4.1.0 build 130111	640×480	√	√
	DS-2CD833F-E	V4.1.0 build 130111	640×480	√	√
	DS-2CD8133F-E	V4.1.0 build 130111	640×480	√	√
	DS-2CD8233F-E(I)	V4.1.0 build 130111	640×480	√	√
	DS-2CD802NF	V2.0 build 090522	704×576	√	√
	DS-2CD812PF	V2.0 build 090715			
	DS-2CD832F DS-2CD892PF/NF	V2.0 build 110301			
	DS-2CD893PF(WD)-E	V4.1.0 build 130111	704×576	√	√
	DS-2CD793PF(WD)-E(I)	V4.1.0 build 130111	704×576	√	√
	DS-2CD793NF(WD)-E(I)	V4.1.0 build 130111	704×576	√	√
	DS-2CD8313PF-E40	V3.2 build 120528	352×288	√	√
	DS-2CD9121	V3.3.0 build 130129	1600×1200	√	×
	DS-2CD9122	V3.3.0 build 130129	1920×1080	√	×
	DS-2CD9131	V3.3.0 build 130129	2048×1536	√	×
	DS-2CD9151A	V3.3.0 build 130129	2448×2048	√	×
	DS-2CD9152	V3.3.1 build 130301	2560×1920	√	×
	DS-2CD9152-H	V3.3.0 build 130120	2592×2048	√	×
	DS-2CD966(B) DS-2CD966-V(B)	V3.1.0 build120423	1360×1024	×	×
	DS-2CD976(B) DS-2CD976-V(B)	V3.1.0 build120423	1600×1200	×	×
	DS-2CD976(C)	V3.1.0 build120423	1600×1200	×	×
	DS-2CD976-V(C)	V3.1.0 build120423	1600×1200	×	×

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-2CD977(B) DS-2CD977(C)	V3.1 build 120423	1920×1080	×	×
	DS-2CD986A(B)	V3.1.0 build120423	2448×2048	×	×
	DS-2CD986A(C)	V3.1.0 build120423	2448×2048	×	×
	DS-2CD986C(B)	V2.3.6 build 120401	2560×1920	×	×
	DS-2DF1-572	V4.0.2 build 120813	1280×720	√	√
	DS-2DF1-57A	V4.0.2 build 120813	1280×720	√	√
	DS-2DF1-772 DS-2DM1-772 DS-2DF1-774D	V4.1.4 build 130110	1280×720	√	√
	DS-2DF7284-A DS-2DF7274-A DS-2DF5284-A DS-2DF5274-A	V4.2.4 build 130126	1280×960	√	√
	DS-2DM1-718	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DM1-518	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DF1-402	V3.1.4 build 130204	704×576	√	√
	DS-2DF1-402N	V3.1.4 build 130204	704×576	√	√
	DS-2DF1-618H	V2.0.1 build 110520 V3.1.0 build110811	704×576	√	√
	DS-2DF1-718	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DF1-518	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-6601HFHI	V1.0.4 build 130115	1920×1080	√	√
	DS-6601HFHI/L	V1.0.4 build 130115	1920×1080	√	√
	DS-6501HCI-SATA DS-6502HCI-SATA DS-6504HCI-SATA DS-6516HCI-SATA	V1.0.1 build 110104	704×576	×	√
	DS-6501HFI-SATA DS-6502HFI-SATA DS-6504HFI-SATA DS-6508HFI-SATA	V1.0.1 build110104	704×576	×	√
	DS-6601HCI DS-6602HCI DS-6604HCI	V1.2.0 build 120215	704×576	×	√
	DS-6601HFI DS-6602HFI	V1.2.0 build 120215	704×576	×	√

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-6604HFI				
Panasonic	WV-SW152(ONVIF compatibility)	Application:1.66 Image data:1.05	800×600	√	×
	WV-SC386(ONVIF compatibility)	Application:1.66 Image data:1.05	1280×960	√	√
	WV-SW155(ONVIF compatibility)	Application:1.66 Image data:1.05	1280×960	√	×
	WV-SW316(ONVIF compatibility)	Application:1.66 Image data:2.03	1280×960	√	√
	WV-SP105(ONVIF compatibility)	Application:1.66 Image data:1.03	1280×960	√	×
	WV-SF132(ONVIF compatibility)	Application:1.66 Image data:1.03	640×360	√	×
	WV-SP102(ONVIF compatibility)	Application:1.66 Image data:1.03	640×480	√	×
	WV-SP509(ONVIF compatibility)	Application:1.30 Image data:2.21	1280×960	√	√
	WV-SW559(ONVIF compatibility)	Application:1.30 Image data:2.21	1920×1080	√	√
	WV-SW558(ONVIF compatibility)	Application:1.30 Image data:2.21	1920×1080	√	×
	WV-SW355(ONVIF compatibility)	Application:1.66 Image data:1.04	1280×960	√	√
	WV-SW352(ONVIF compatibility)	Application:1.66 Image data:1.04	800×600	√	√
	WV-SF342(ONVIF compatibility)	Application:1.66 Image data:1.06	800×600	√	√
	WV-SF332(ONVIF compatibility)	Application:1.66 Image data:1.06	800×600	√	√
	WV-SF346(ONVIF compatibility)	Application:1.66 Image data:1.06	1280×960	√	√
	WV-SP306H	Application:1.34 Image data:1.06	1280×960	√	√
	WV-SP336H	Application:1.06 Image data:1.06	1280×960	√	√
PELCO	D5118	1.8.2-20120327-2.9310-A1.7852	1280×960	√	×
	IXE20DN-AAXVUU2	1.8.2-20120327-2.9081-A1.7852	1920×1080	√	×
	IX30DN-ACFZHB3	1.8.2-20120327-2.9080-A1.7852	2048×1536	√	×
SAMSUNG (ONVIF compatibility)	SNB-5000P	V2.00_110727	1280×1024	√ (Only ONVIF is supported)	√

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
SANYO	VCC-HD2300P	2.03-02(110318-00)	1920×1080	×	×
	VCC-HD2500P	2.02-02(110208-00)	1920×1080	×	√
	VCC-HD4600P	2.03-02(110315-00)	1920×1080	×	√
SONY	SNC-CH220	1.50.00	1920×1080	×	×
	SNC-RH124(ONVIF compatibility)	1.73.00	1280×720	√	√
	SNC-EP580(ONVIF compatibility)	1.53.00	1920×1080	√	√
	SNC-DH220T(Only ONVIF is supported)	1.50.00	2048×1536	×	×
Vivotek	IP7133	0203a	640×480	×	×
	FD8134(ONVIF compatibility)	0107a	1280×800	×	×
	IP8161(ONVIF compatibility)	0104a	1600×1200	×	√
	IP8331(ONVIF compatibility)	0102a	640×480	×	×
	IP8332(ONVIF compatibility)	0105b	1280×800	×	×
ZAVIO	D5110	MG.1.6.03P8	1280×1024	√	×
	F3106	M2.1.6.03P8	1280×1024	√	√
	F3110	M2.1.6.01	1280×720	√	√
	F3206	MG.1.6.02c045	1920×1080	√	√
	F531E	LM.1.6.18P10	640×480	√	√